

**DRAFT**

**Lancaster County, Virginia**

**APPLICATION FOR  
FEDERAL  
*NO DISCHARGE ZONE*  
DESIGNATION**

*Submitted to the U.S. Environmental Protection Agency, Region III, by the Commonwealth of Virginia*

Mulberry, Deep, Greenvale, Paynes, Beach, Whitehouse, Town, Myer, Moran, Taylor, Carter, Mosquito, Oyster, Windmill Point Resort Boat Basin, Antipoison, Davenport, Tabbs, Dyer, and Indian\* Creeks; and both East and West Branches of the Corrotoman River

16 February 2011

\* **Indian Creek** is in both Lancaster and Northumberland Counties

## Purpose and Background Information

Virginia House Bill 1774 (March 27, 2009) has established the tidal creeks of the Commonwealth as *No Discharge Zones*. Vessels operating in these designated areas may be prohibited from discharging treated and untreated waste into the waters. A *No Discharge Zone* (NDZ) can be established on those tidal creeks where the U.S. Environmental Protection Agency (EPA) has determined that sufficient facilities exist for the removal of sewage.

The designation of NDZs is established by an application process overseen and approved by the EPA. In order to determine the applicability of the requested NDZ designation, each application must include the criteria necessary for EPA review as listed in the "Protecting Coastal Waters from Vessel and Marina Discharges: A Guide for State and Local Officials," [www.epa.gov/reg3wapd/nodischarge/index.htm](http://www.epa.gov/reg3wapd/nodischarge/index.htm)

Prepared by the Northern Neck Planning District Commission for the Virginia Department of Environmental Quality

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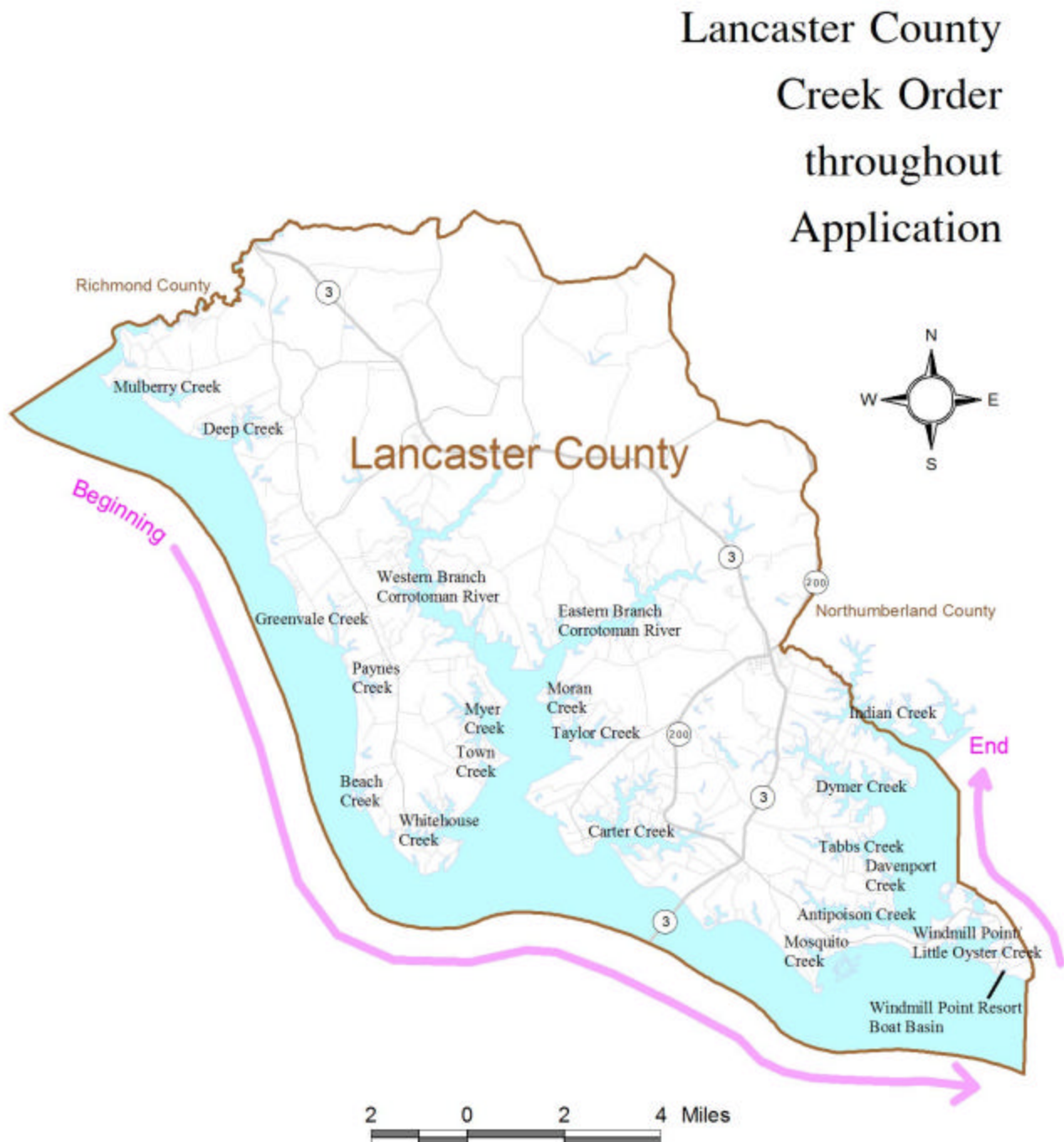
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# APPLICATION FOR FEDERAL NO DISCHARGE ZONE DESIGNATION

*Submitted to the U.S. Environmental Protection Agency, Region III, by the Commonwealth of Virginia*



Source: Northern Neck Planning District Commission

# APPLICATION FOR FEDERAL NO DISCHARGE ZONE DESIGNATION

*Submitted to the U.S. Environmental Protection Agency, Region III, by the Commonwealth of Virginia*

**Date of Submission:** \*\*\*TBA\*\*\*

## **Bodies of Water Affected:**

*The order of creeks listed progresses from the Richmond/Lancaster county border, down the Rappahannock River, around Windmill Point, and up the Chesapeake Bay to the Lancaster/Northumberland county border, in counter-clockwise fashion (Reference Map: Page 5). This order is maintained throughout the application.*

1. Mulberry Creek
2. Deep Creek
3. Greenvale Creek
4. Paynes Creek
5. Beach Creek
6. Whitehouse Creek (including Millenbeck Prong and Ewells Prong)
7. Town Creek
8. Myer Creek
9. Western Branch Corrotoman River (including Senior Creek, Little Branch, Davis Creek, John Creek, and Lowrey Creek)
10. Eastern Branch Corrotoman River (including Hills Creek, Bells Creek, Punches Cove, Browns Creek, Camps Prong, Norris Prong, and Quarter Cove)
11. Moran Creek
12. Taylor Creek
13. Carter Creek (including Carter Cove, Dead and Bones Cove, Church Prong, Bridge Cove, Sams Cove, Old Mill Cove, Dunton Cove, Currell Cove, James Cove, Jacks Cove, Yopps Cove)
14. Mosquito Creek (including Mosquito Bay around Mosquito Island)
15. Windmill Point Creek (including Little Oyster Creek)
16. Windmill Point Resort Boat Basin
17. Antipoison Creek (including Harpers Creek)
18. Davenport Creek
19. Tabbs Creek
20. Dyer Creek (including Ashley Cove, Georges Cove, Chases Cove, Johnson Cove, Hunts Cove, Lees Cove, Rones Bay, and Poplar Neck Creek)
21. Indian Creek (including Long Creek, Pitmans Cove, Arthur Cove, Bells Creek, Harveys Creek, Barnes Creek, Henrys Creek, and Waverly Cove)

Within this application, when the numbered creeks named above are used, the tributaries that appear in parenthesis are automatically included.

**Location:** Lancaster and Northumberland Counties, Virginia

# 1. INTRODUCTION

The establishment of No Discharge Zones is one of the water-quality improvement strategies adopted under the 2000 Chesapeake Bay Agreement. More specifically, Virginia House Bill 1774 (March 27, 2009) established all tidal creeks of the Commonwealth as No Discharge Zones—that is, zones where vessels may be prohibited from discharging treated or untreated waste into the waters.

Because the final decision on whether a creek becomes a No Discharge Zone rests with the U.S. Environmental Protection Agency, this application submits pertinent data to help the EPA make that decision regarding the subject state waters.

## 1.1 Description of Area & Geographic Location

All of the subject waters are rural watersheds in Virginia's Coastal Plain, on the Northern Neck peninsula, and in Lancaster County (with the exception of Indian Creek, which straddles Lancaster and Northumberland Counties). All waters drain to the Chesapeake Bay via the Rappahannock River, except Antipoison, Davenport, Tabbs, Dividing, Dymmer, and Indian Creeks, which drain directly to the Chesapeake Bay.

- **Mulberry Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°47'14.10"N, 76°36'29.42"W and 37°47'06.27"N, 76°37'03.89"W
- **Deep Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°46'18.36"N, 76°35'09.34"W and 37°46'13.59"N, 76°35'03.26"W
- **Greenvale Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'39.87"N, 76°32'38.37"W and 37°42'38.87"N, 76°32'37.35"W
- **Paynes Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'0.23"N, 76°32'17.60"W and 37°41'54.24"N, 76°32'13.803"W
- **Beach Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'53.59"N, 76°32'07.01"W and 37°39'51.84"N, 76°32'06.69"W
- **Whitehouse Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'26.66"N, 76°29'57.66"W and 37°39'10.66"N, 76°29'41.96"W
- **Town Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°40'28.75"N, 76°29'0.93"W and 37°39'18.96"N, 76°29'9.86"W
- **Myer Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°41'20.73"N, 76°28'57.80"W and 37°41'6.75"N, 76°29'14.39"W
- **West Branch Corrotoman River:** All contiguous waters upstream of the line formed between points with coordinates 37°42'13.37"N, 76°28'42.67"W and 37°42'14.79"N, 76°29'12.33"W
- **East Branch Corrotoman River:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'13.37"N, 76°28'42.67"W and 37°42'14.79"N, 76°29'12.33"W
- **Moran Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°41'38.79"N, 76°27'46.16"W and 37°41'35.11"N, 76°27'36.44"W
- **Taylor Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°41'1.67"N, 76°27'34.03"W and 37°40'59.39"N, 76°27'22.69"W
- **Carter Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'08.71"N, 76°26'43.54"W and 37°39'08.42"N, 76°26'22.93"W
- **Mosquito Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°37'02.63"N, 76°21'34.60"W and 37°37'10.17"N, 76°21'31.40"W
- **Windmill Point Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°38'12.40"N, 76°18'46.42"W and 37°38'11.55"N, 76°18'45.04"W

- **Windmill Point Resort Boat Basin:** All contiguous waters upstream of the line formed between the points with coordinates 37°36'52.64"N, 76° 17'26.28"W and 37°36'51.67"N, 76°17'27.84"W
- **Antipoison Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°37'50.10"N, 76° 19'59.02"W and 37°37'59.95"N, 76°19'58.17"W
- **Davenport Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°38'37.94"N, 76° 20'1.25"W and 37°38'36.19"N, 76°20'3.11"W
- **Tabbs Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'12.83"N, 76° 20'22.23"W and 37°39'21.55"N, 76°20'26.64"W
- **Dymer Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'53.14"N, 76° 20'15.99"W and 37°40'13.80"N, 76°20'03.26"W
- **Indian Creek:** A rural watershed in Virginia's Coastal Plain, on the Northern Neck peninsula, Lancaster and Northumberland Counties. It drains to the Chesapeake Bay via the Rappahannock River and includes all contiguous waters upstream of the line formed between the points with coordinates 37°40'34.58"N, 76° 19'33.43"W and 37°41'07.32"N, 76°19'06.63"W

## 1.2 Discharges

- **Mulberry Creek:** Southwest into the Rappahannock River
- **Deep Creek:** Southwest into the Rappahannock River
- **Greenvale Creek:** South into the Rappahannock River
- **Paynes Creek:** South into the Rappahannock River
- **Beach Creek:** South into the Rappahannock River
- **Whitehouse Creek:** West into the Corrotoman River
- **Town Creek:** West into the Corrotoman River
- **Myer Creek:** West into the Corrotoman River
- **West Branch Corrotoman River:** South into the Corrotoman River
- **East Branch Corrotoman River:** South into the Corrotoman River
- **Moran Creek:** East into the Corrotoman River
- **Taylor Creek:** East into the Corrotoman River
- **Carter Creek:** South into the Rappahannock River
- **Mosquito Creek:** Southeast into the Rappahannock River
- **Windmill Point Creek:** South into the Rappahannock River
- **Windmill Point Resort Boat Basin:** South into the Rappahannock River
- **Antipoison Creek:** Southeast into Fleets Bay, then the Chesapeake Bay
- **Davenport Creek:** Southeast into Fleets Bay, then the Chesapeake Bay
- **Tabbs Creek:** Southeast into the Chesapeake Bay
- **Dymer Creek:** Southeast into the Chesapeake Bay
- **Indian Creek:** Southeast into the Chesapeake Bay

## 1.3 Drainage Areas of Watershed

- **Mulberry Creek:** The drainage area is 2,401 acres or 3.75 square miles
- **Deep Creek:** The drainage area is 3,429 acres or 5.35 square miles
- **Greenvale Creek:** The drainage area is 1049 acres or 1.63 square miles
- **Paynes Creek:** The drainage area is 861 acres or 1.35 square miles
- **Beach Creek:** The drainage area is 629 acres or .98 square miles
- **Whitehouse Creek:** The drainage area is 4,288 acres or 6.70 square miles

- **Town Creek:** The drainage area is 295 acres or .46 square miles
- **Myer Creek:** The drainage area is 1958 acres or 3.05 square miles
- **West Branch Corrotoman River:** The drainage area is 25,495 acres or 39.83 square miles
- **East Branch Corrotoman River:** The drainage area is 17,183 acres or 26.84 square miles
- **Moran Creek:** The drainage area is 286 acres or .44 square miles
- **Taylor Creek:** The drainage area is 1,801 acres or 2.81 square miles
- **Carter Creek:** The drainage area is 6,119 acres or 9.56 square miles
- **Mosquito Creek:** The drainage area is 863 acres or 1.34 square miles
- **Windmill Point Creek:** The drainage area is 847 acres or 1.32 square miles
- **Windmill Point Resort Boat Basin:** Included in Windmill Point Creek
- **Antipoison Creek:** The drainage area is 2,800 acres or 4.37 square miles
- **Davenport Creek:** The drainage area is 281 acres or .44 square miles
- **Tabbs Creek:** The drainage area is 1,586 acres or 2.47 square miles
- **Dymer Creek:** The drainage area is 5,415 acres or 8.46 square miles
- **Indian Creek:** The drainage area is 6,513 acres or 10.29 square miles

#### 1.4 Shoreline and No Discharge Zone Areal Extent

*Rationale for choosing the boundaries of the proposed No Discharge Zones:*

In the early stages of the application process, consideration was given to create No Discharge Zones within 1000 feet of the entire Lancaster County shoreline. Due to enforcement issues, and the difficulty that boaters would have determining the location of NDZ boundaries, the 1000-foot concept was scrapped. Instead, boundaries have been placed at the mouth of each creek. In the case of the larger body of water that is the Corrotoman River, a compromise was to place the boundaries at the entrance of the Eastern Branch and Western Branch, leaving the rest of the river without a NDZ. Several small, shallow creeks that are currently not navigable (e.g., Midway Creek, Bulls Creek, Wyatt Creek, Sanders Cove, Oyster Creek, etc.) are not included in this application. In the future, if any of these creeks are dredged for navigation, then the Virginia Department of Environmental Quality will prepare a new No Discharge Zone application for them.

- **Mulberry Creek:** Approximately 7.06 miles, or 37,326 feet, of shoreline; and approximately 0.247 square miles, or 158 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Deep Creek:** Approximately 7.66 miles, or 40,452 feet, of shoreline; and approximately 0.217 square miles, or 139 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Greenvale Creek:** Approximately 4.36 miles, or 23,042 feet, of shoreline; and approximately 0.139 square miles, or 89 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Paynes Creek:** Approximately 3.16 miles, or 16,699 feet, of shoreline; and approximately 0.064 square miles, or 41 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Beach Creek:** Approximately 3.72 miles, or 19,666 feet, of shoreline; and approximately 0.081 square miles, or 52 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Whitehouse Creek:** Approximately 10.07 miles, or 53,165.91 feet, of shoreline; and approximately 0.307 square miles, or 196 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Town Creek:** Approximately 1.45 miles, or 7,680.68 feet, of shoreline; and approximately 0.057 square miles, or 36 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Myer Creek:** Approximately 10.32 miles, or 54,465.81 feet, of shoreline; and approximately 0.349 square miles, or 223 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **West Branch Corrotoman River:** Approximately 30.80 miles or 178,481.73 feet, of shoreline; and approximately 2.026 square miles, or 1,297 acres, of NDZ areal extent.



- **East Branch Corrotoman River:** Approximately 26.95 miles, or 142,294.59 feet, of shoreline; and approximately 1.218 square miles, or 780 acres, of NDZ areal extent.
- **Moran Creek:** Approximately 3.51 miles, or 18,539.22 feet, of shoreline; and approximately 0.102 square miles, or 65 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Taylor Creek:** Approximately 8.65 miles, or 45,646.65 feet, of shoreline; and approximately 0.264 square miles, or 169 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Carter Creek:** Approximately 27.58 miles, or 145,668 feet, of shoreline; and approximately 0.987 square miles, or 632 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Mosquito Creek:** Approximately 3.40 miles, or 17,977 feet, of shoreline; and approximately 1.193 square miles, or 764 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Windmill Point Creek:** Approximately 4.43 miles, or 23,438 feet of shoreline; and approximately 0.453 square miles, or 290 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Windmill Point Resort Boat Basin:** Approximately .27 miles, or 1431.82 feet of shoreline; and approximately .0099 square miles, or 6 acres, of NDZ areal extent.
- **Antipoison Creek:** Approximately 13.20 miles, or 69,729 feet, of shoreline; and approximately 0.467 square miles, or 299 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Davenport Creek:** Approximately 1.45 miles, or 7659.61 feet, of shoreline; and approximately 0.021 square miles, or 13 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Tabbs Creek:** Approximately 9.92 miles, or 52,454 feet, of shoreline; and approximately 0.289 square miles, or 185 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Dymer Creek:** Approximately 22.71 miles, or 119,936 feet, of shoreline; and approximately 1.144 square miles, or 732 acres, of NDZ areal extent. **Entire Creek is NDZ**
- **Indian Creek:** Approximately 36.31 miles, or 109,957 feet, of shoreline; and approximately 1.639 square miles, or 1,049 acres, of NDZ areal extent. **Entire Creek is NDZ**

## 1.5 Water Characteristics

- **Mulberry Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Deep Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Greenvale Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Paynes Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Beach Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Whitehouse Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Town Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Myer Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **West Branch Corrotoman River:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **East Branch Corrotoman River:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Moran Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Taylor Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Carter Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Mosquito Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Windmill Point Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.

- **Windmill Point Resort Boat Basin:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Antipoison Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Davenport Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Tabbs Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Dymer Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.
- **Indian Creek:** Mesohaline (5 to 18 ppt salinity), subject to the action of tides and annual rainfall.

Sources: [www.chesapeakebay.net/content/maps/cbp\\_20191.pdf](http://www.chesapeakebay.net/content/maps/cbp_20191.pdf) and The Virginia Department of Environmental Quality (DEQ)

## 1.6 Depth

*Visual Reference: maps 6.11 to 6.25, starting on page 34*

- **Mulberry Creek:** Shallow, with a maximum depth of 5 feet at its widest section next to very shallow banks. The rest of the creek alternates between 1 and 4 feet.
- **Deep Creek:** Shallow, with a maximum depth of 5 feet near a narrow entrance. The rest of the creek alternates between 2 and 4 feet.
- **Greenvale Creek:** Shallow, with a maximum depth of 6 feet near a narrow entrance. The creek was recently dredged. The rest of the creek alternates between 3 and 5 feet deep.
- **Paynes Creek:** Very Shallow, 1 to 2 feet deep.
- **Beach Creek:** Very shallow, with a maximum depth of 1 foot near the entrance. The rest of the creek alternates between 1 to 3 feet deep.
- **Whitehouse Creek:** Shallow, with a maximum depth of 6 feet at the entrance. The rest of the creek alternates between 1 and 6 feet. The maximum depth at the entrance to Ewells and Millenbeck Prongs is 4 feet, with the rest alternating between 2 and 6 feet.
- **Town Creek:** Very shallow, with a maximum depth of 2 feet at the entrance. The rest of the creek alternates between 4 and 5 feet deep.
- **Myer Creek:** Moderate, with a maximum depth of 15 feet near a wide entrance. The rest of the creek alternates between 1 and 11 feet deep.
- **West Branch Corrotoman River:** Moderate, with a maximum depth of 16 feet at the entrance. The rest of the branch alternates between 2 and 22 feet deep.
- **East Branch Corrotoman River:** Moderate, with a maximum depth of 17 feet at the entrance. The rest of the branch alternates between 1 and 17 feet deep.
- **Moran Creek:** Shallow, with a maximum depth of 4 feet near a narrow entrance. The rest of the creek alternates between 3 to 6 feet deep.
- **Taylor Creek:** Shallow, with a maximum depth of 8 feet near the entrance. The rest of the creek alternates between 1 to 8 feet deep.
- **Carter Creek:** Moderate, with a maximum depth of 17 feet near a wide entrance. The rest of the creek alternates between 3 to 15 feet in depth.
- **Mosquito Creek:** Shallow, with a maximum depth of 5 feet near a narrow entrance. The rest of the creek alternates between 2 to 5 feet deep.
- **Windmill Point Creek:** Shallow, with a maximum depth of 6 feet at its widest point. The creek alternates in depth between 2 feet near its entrance and 6 feet at the deepest.
- **Windmill Point Resort Boat Basin:** Shallow, with a maximum depth of 6 feet.
- **Antipoison Creek:** Moderate, with a maximum depth of 10 feet at its widest point. The rest of the creek alternates between 2 and 9 feet.
- **Davenport Creek:** Very shallow, with a maximum depth of 1 foot at the entrance. The rest of the creek alternates between 1 and 5 feet deep.

- **Tabbs Creek:** Moderate, with a maximum depth of 12 feet near the entrance. The rest of the creek alternates between 4 and 11 feet.
- **Dymer Creek:** Moderate, with a maximum depth of 17 feet. The depth is also 17 feet at the entrance. Depths vary between 3 to 16 feet throughout the creek.
- **Indian Creek:** Moderate, with a depth of 16 feet near the widest point of the creek. The mouth of the creek is 15 feet deep with depths ranging between 2-14 feet in the rest of the creek.

## 1.7 Certification of Need

The tidal tributaries detailed herein need greater protection than the current federal standards afford. The shellfishing use of these waters has been or currently is compromised by bacterial impairment, which causes the tributaries not to meet state water-quality standards. While terrestrial pollution is a threat to these marine natural resources, vessel pollution is direct and proximate to oyster grounds, and therefore may have a more immediate impact on local water quality.

In accordance with the Code of Federal Regulations—40 CFR §140.4(a)—this application requests that the U.S. Environmental Protection Agency (EPA) determine that “adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available,” and that approval of a *No Discharge Zone* for the subject waters be granted.

Given approval from EPA, the Commonwealth of Virginia intends to prohibit all vessel sewage discharges, whether treated or untreated, into the *No Discharge Zone* proposed by this application. The NDZ designation will not apply to graywater vessel discharges in the affected areas, provided the graywater discharge system is independent from the sewage system (i.e., no shared tanks, pipes, pumps, or valves). The following pages document the environmental status of the watersheds. They also document that adequate sewage-removal facilities are available to justify a *No Discharge Zone* designation.

## 1.8 Proposed Boundaries of the No Discharge Zone

*Some of the No Discharge Zones proposed include the entire are of the water bodies listed. Others, induce only part. For a comparison between the two, refer to Section 1.4, Page 9*

*Visual Reference: maps 6.1 to 6.10, starting on page 24*

- **Mulberry Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°47'12.54"N, 76° 37'12.44"W and 37°47'03.19"N, 76°37'05.10"W
- **Deep Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°46'18.94"N, 76° 35'08.20"W and 37°46'13.36"N, 76°35' 12.03"W
- **Greenvale Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'36.52"N, 76° 32'41.40"W and 37°42'28.46"N, 76°32'31.52"W
- **Paynes Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°41'59.51"N, 76° 32'18.04"W and 37°41'55.340"N, 76°32' 15.18"W
- **Beach Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'53.00"N, 76° 32'04.88"W and 37°39'52.13"N, 76°32' 05.25"W
- **Whitehouse Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'28.12"N, 76° 29'56.93"W and 37°39'12.88"N, 76°29' 59.10"W
- **Town Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°40'19.46"N, 76° 29'09.32"W and 37°40'29.20"N, 76°28' 58.97"W



- **Myer Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°40'06.21"N, 76° 29'13.66"W and 37°41'20.22"N, 76° 28'56.58"W
- **West Branch Corrotoman River:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'16.55"N, 76° 29'10.75"W and 37°42'14.09"N, 76°28'41.39"W
- **East Branch Corrotoman River:** All contiguous waters upstream of the line formed between the points with coordinates 37°42'15.16"N, 76° 28'05.75"W and 37°42'15.88"N, 76°27'33.27"W
- **Moran Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°41'40.28"N, 76° 27'48.48"W and 37°41'35.75"N, 76°27'39.30"W
- **Taylor Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°40'59.05"N, 76° 27'36.20"W and 37°40'59.72"N, 76°27'22.27"W
- **Carter Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'06.64"N, 76° 26'43.51"W and 37°39'07.88"N, 76°26'23.39"W
- **Mosquito Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°36'32.12"N, 76° 21'32.79"W and 37°37'10.27"N, 76°19'24.41"W
- **Windmill Point Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°37'26.58"N, 76°18'41.89"W and 37°37'13.30"N, 76°18'25.40"W
- **Windmill Point Resort Boat Basin:** All contiguous waters upstream of the line formed between the points with coordinates 37°36'52.64"N, 76° 17'26.28"W and 37°36'51.67"N, 76°17'27.84"W
- **Antipoison Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°37'49.10"N, 76°19'58.57"W and 37°37'56.38"N, 76°19'57.29"W
- **Davenport Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°38'35.82"N, 76°20'20.92"W and 37°38'38.64"N, 76°20'00.86"W
- **Tabbs Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'13.24"N, 76°20'22.10"W and 37°39'21.79"N, 76°20'23.89"W
- **Dymer Creek:** All contiguous waters upstream of the line formed between the points with coordinates 37°39'40.46"N, 76°20'07.72"W and 37°40'16.96"N, 76°19'31.62"W
- **Indian Creek:** A rural watershed in Virginia's Coastal Plain, on the Northern Neck peninsula, Lancaster and Northumberland Counties. It drains to the Chesapeake Bay via the Rappahannock River and includes all contiguous waters upstream of the line formed between the points with coordinates 37°40'25.88"N, 76° 19'29.92"W and 37°41'21.85"N, 76°18'23.73"W

## 2. RESOURCES AND ENVIRONMENTAL ISSUES

All of the waterbodies considered in this NDZ application are tributaries within the Chesapeake Bay (the “Bay”) drainage. The Bay is one of the largest estuarine systems in the United States, and one of the nation’s most valuable natural resources.

### 2.1 Human Use

- **Development within Watersheds**

*The community that encompasses the drainage area of each of the following water bodies has the number of addressed structures indicated, known as E911 building structures (2010 E911). Assuming conservatively that all these structures are residences, and that the number of persons per household is the 2000 US Census average for Lancaster County (2.2), this translates into an estimated population indicated for each water body. Because many of the homes are part-time or vacation homes, the population cited should be considered a maximum population during warmer months.*

- **Mulberry Creek:** 121 structures, estimated population of 266 individuals
  - **Deep Creek:** 123 structures, estimated population of 271 individuals
  - **Greenville Creek:** 185 structures, estimated population of 407 individuals
  - **Paynes Creek:** 73 structures, estimated population of 161 individuals
  - **Beach Creek:** 53 structures, estimated population of 117 individuals
  - **Whitehouse Creek:** 113 structures, estimated population of 249 individuals
  - **Town Creek:** 36 structures, estimated population of 79 individuals
  - **Myer Creek:** 222 structures, estimated population of 488 individuals
  - **West Branch Corrotoman River:** 1183 structures, estimated population of 2603 individuals
  - **East Branch Corrotoman River:** 1208 structures, estimated population of 2658 individuals
  - **Moran Creek:** 96 structures, estimated population of 211 individuals
  - **Taylor Creek:** 237 structures, estimated population of 521 individuals
  - **Carter Creek:** 1,449 structures, estimated population of 3,188 individuals
  - **Mosquito Creek:** 203 structures, estimated population of 447 individuals
  - **Windmill Point Creek:** 95 structures, estimated population of 209 individuals
  - **Windmill Point Resort Boat Basin:** Included in Windmill Point Creek
  - **Antipoison Creek:** 324 structures, estimated population of 713 individuals
  - **Davenport Creek:** 50 structures, estimated population of 110 individuals
  - **Tabbs Creek:** 219 structures, estimated population of 482 individuals
  - **Dymer Creek:** 823 structures, estimated population of 1,811 individuals
  - **Indian Creek:** 284 structures, estimated population of 625 individuals
- **Publicly-Owned Launch Access in Lancaster County**
    - **Belle Isle State Park:** A boat launch is available inside the park (parking fees apply), on Creek Landing Road.
    - **Greenville Creek Boat Landing:** A boat launch is available at the end of State Route 662 (Thomas Landing Road).

- **Activities**

- Boating, fishing, shellfish harvesting, crabbing, water skiing, and swimming. Transient recreational vessels use these creeks for rest and re-fitting, anchorage, mooring, and other services while transiting the Rappahannock River and the Chesapeake Bay, whose waters are plied by vessels of all sizes and types, including sailing vessels, motor yachts, commercial tugs, fishing vessels, personal watercraft, canoes, kayaks, and skiffs.

## 2.2 Wildlife

Several water-dependent species utilize these waters. The following is an excerpt of the list found in Section 8.1, which includes select species (common and threatened or endangered).

- **Fish:** Croaker, Spot, Gray Trout, Red Drum, and Flounder. Also found: migrating populations of hickory and American shad, striped bass, alewife, yellow perch, short-nose sturgeon and Atlantic sturgeon, and other anadromous fish.
- **Marine mammals:** Bottlenose dolphins utilize these waters, as well as Harbor Porpoises.
- **Reptiles:** Kemps-Ridley, loggerhead and green sea turtles.
- **Avian:** Bald eagles, egrets, cormorants, kingfishers, gulls, herons, loons, various species of ducks, and other migratory and resident species.

## 2.3 Water Quality Issues

- **Total Maximum Daily Load (TMDL) & Bacterial Impairments:** The following water bodies proposed as No Discharge Zones in this application have been or are currently listed on the 303(d) list of impaired waters for exceedance of bacteria water-quality standards for shellfish use.

NDZ (Name)	Watershed TMDL Status	County
Mulberry Creek	Approved	Lancaster
Deep Creek	Approved	Lancaster
Greenvale Creek	Approved	Lancaster
Paynes Creek	Approved	Lancaster
Beach Creek	Approved	Lancaster
Myer Creek	Approved	Lancaster
Western Branch Corrotoman River	Approved	Lancaster
Eastern Branch Corrotoman River	Approved	Lancaster
Moran Creek	Approved	Lancaster
Taylor Creek	Approved	Lancaster
Carter Creek	Approved	Lancaster
Mosquito Creek	Approved	Lancaster
Antipoison Creek	Approved	Lancaster
Davenport Creek	Approved	Lancaster
Tabbs Creek	Approved	Lancaster
Dymer Creek	Approved	Lancaster
Indian Creek	Approved	Lancaster & Northumberland

Source: Virginia DEQ

- **Dissolved Oxygen:** All waters included in the proposed NDZ areas are listed as impaired by the 2006 VA DEQ Water Quality Assessment for Dissolved Oxygen. Additionally, all waters of the Rappahannock River and the Chesapeake Bay and its tributaries are listed as impaired due to excess nutrients.
- **Aquatic Plants (macrophytes):** All waters included in the proposed NDZ area are listed as impaired for aquatic plants.

- **Monitoring:** The Virginia Department of Health’s Division of Shellfish Sanitation (VDH-DSS) operates an extensive bacteria-monitoring network in these waters and other designated shellfish waters in the Commonwealth. The Virginia Department of Environmental Quality also maintains a long-standing monitoring program in these waters, including the Rappahannock River and portions of the Chesapeake Bay. Parameters measured include chemical and bacteriological data that are analyzed at fixed stations. The VDH-DSS monitoring indicates that the subject waters routinely fail to meet water-quality standards for shellfish and are cited with seasonal and/or annual condemnations (Maps 6.26 to 6.38, starting on Page 49).

Although many sources potentially contribute to declining water quality in these waters, it should be assumed that discharges from vessels anchored, docked, moored, or operating within them, have the potential to be contributory sources to the overall bacteria load.

Per federal regulations, sanitary wastewater discharged from boats may be relatively concentrated, with a range of fecal coliform from 200 to more than 1,000 Most Probable Number (MPN) per 100 milliliters of water. In addition, the average marine sanitation device provides minimal, if any, treatment for chemical or biological oxygen demand, phosphorus, or nitrogen.

Typical Chemical Constituents Measured in  
Recreational Vessel’s Holding Tanks

Chemical Procedure	Unit	Result	Report Limit
BOD	mg/l	2,800	2
COD	mg/l	5,000	25
TKN	mg/l	2,290	.50
Total P	mg/l	113	.20
Fecal Coliform	FC/100 ml	29,000,000	ND

Source: Lynnhaven Boat Wastewater Sampling Program. January 7, 2008

Depending on the type of MSD, wastewater discharges from marine vessels may also contain additional pollutants, such as protozoa (e.g., *giardia*), viruses (e.g., *norovirus*), and deodorants or sanitizing chemicals (e.g., formaldehyde) that are potentially harmful to humans, wildlife, and the environment. See *Marine Sanitation Device (MSD) Standards*, Section 8.3, Page 64.

## 2.4 Shellfish

The current shellfish standard for fecal coliform bacteria allows for a maximum geometric mean of 14 per 100 milliliters (ml) of water and a 90th percentile not to exceed 49 MPN/100ml over a 30-month period.

Under this standard, the water-quality data from VDH-DSS monitoring indicates that significant areas of the subject waters in this application failed to meet the National Shellfish Sanitation Standard for fecal coliform bacteria (Maps 6.26 to 6.38, starting on Page 49).

Condemnation under the DSS classification means it is “unlawful for any person, firm, or corporation to take shellfish from these sections for any purpose, except by permit granted by the Marine Resources Commission, as provided in Section 28.2-810 of the Code of Virginia.”

The condemnation is put into effect based on the potential threat to human health resulting from contaminated shellfish consumption. While terrestrial pollution is a threat to these marine natural resources, vessel pollution is direct and proximate to oyster grounds, and therefore may have a more

immediate impact on local water quality. Trends over the past decade have shown that bacteria levels in these waters are increasing, resulting in expanded shellfish condemnations.

Reasons for the expansion of shellfish condemnations include increases in shoreline development and impervious surfaces, decreases in protective riparian buffers, old or malfunctioning septic systems, and increased boating activity. Bacterial source-tracking (BST) data collected as a component of the Shellfish TMDLs for the subject waters suggest that, averaged annually, approximately between 3% (Taylor Creek) and 66% percent (Antipoison and Davenport Creeks) of the fecal bacteria in these waters were of human origin. Other sources include wildlife, pets, and livestock.

### 3. FACILITY INFORMATION

The Virginia Department of Health (VDH) ensures the presence of proper sanitary facilities at marinas. Standards are set forth in the *Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings*, and marina facilities are inspected annually by VDH for compliance with the regulations (See Section 8.5, Page 66).

The following sanitary facilities are currently available within or at a reasonable distance from the proposed *No Discharge Zones* (Maps 6.1 to 6.10, starting on Page 24):

Marinas Open to the Public - Lancaster County						
Name and Location	Contact Person	Date & Time of Survey	Hours of Operation	Dump Station	Pumpout	Cost
<b>Chesapeake Boat Basin Inc.</b> Box 159, Kilmarnock, VA 22482 804-435-3110  <b>Latitude 37 42.014</b> <b>Longitude 76 21.089</b>  Indian Creek	Clay	10/28/10 12:00PM	8-5 M-Sat 8-1 Sunday  Weekend: 14 hours  Jan/Feb closed Sun-Mon	Y	Y	\$5
<b>Tides Inn Marina</b> Tides Inn 480 King Carter Drive Irvington, Va.22480-0480 804-438-5000  <b>Latitude 37.6638</b> <b>Longitude -76.4330</b>  Carters Creek	Keith	10/28/10 2:30PM	Summer 8-7  Weekend: 22 hours  Off Season 8-4	Y	Y	\$5
<b>Windmill Point Resort &amp; Yacht Harbour</b> P.O. Box 368, White Stone, Virginia 22578 804-435-1166  <b>Latitude 37 36.995</b> <b>Longitude 76 17.55</b>  Rappahannock River	David	10/28/2010 12:57PM	8AM-6PM, can be later if requested  Weekend: 20 hours	Y	Y	\$15 to \$50
<b>Yankee Point Sailboat Marina</b> 1303 Oak Hill Road 804-462-7018  <b>Latitude 37 41.638</b> <b>Longitude 76 29.389</b>  Myers Creek	Karen	10/28/10 4:20 PM	24 hours  Weekend: 48 hours	Y	Y	Free with gas purchase
			Total Weekend Operating Hours: 104  Average Weekend Operating Hours per Facility: (104/4) = 26			

Sources: <http://www.vdh.virginia.gov/EnvironmentalHealth/Wastewater/MARINA/pumpoutdata/county/richmond.htm>, Northern Neck Planning District Commission

### 3.1 Facility Maintenance

Routine health department inspections and tests are performed to ensure that the facilities listed above are open to the public and functioning properly. Broken pump-out stations can be reported by calling the VDH Marina Program. Specific design and operation requirements are addressed in *The Virginia Sanitary Regulations for Marinas and Boat Mooring* (Section 8.5, Page 66).

### 3.2 Facility Waste Treatment Method

Waste collected by the marinas in the proposed NDZ above is disposed of in a holding (pump and haul) tank or treated in an onsite sewage system. The Chesapeake Bay Act requires that onsite sewage-system tanks be pumped out every five years. All wastes are collected from pumpout and dump stations and transported by haulers who deliver them to municipal waste-treatment facilities or private facilities—permitted under the Virginia Pollutant Elimination Discharge System—for their final treatment and disposal. Regulations for these activities are addressed in *The Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings* (See Section 8.5, Page 66).

### 3.3 Number of Vessels and Estimated Number of Facilities Needed

To calculate the estimated number of vessels in the *No Discharge Zone* proposed by this application, four different sources were considered:

- Field surveys conducted by the NNPDC and/or submitted by marina operators
- Department of Game and Inland Fisheries (vessel registration database)
- Virginia Department of Health, Division of Waste Water Engineering (marina database)
- Federally-documented vessels (U.S. Coast Guard)

Estimates based on combining the number of boats registered in the region and documented federally (exempt from Virginia registration) far exceed those derived from slip counts or marina data. In the interest of obtaining a conservative estimate of the number of facilities needed to provide pump-out and dump-station services for every potential vessel in the proposed *No Discharge Zones*, this application therefore uses the combined population estimates from the Virginia Department of Game and Inland Fisheries and the U.S. Coast Guard.

Because all of Indian Creek is included in this application, a proportional number of boats from Northumberland County is added to Lancaster County's total, using the following method:

- Boats added from Northumberland County represent 0.3% of Northumberland's DGIF totals. The 0.3% is derived from the number of E911 building structures that are part of Indian Creek's watershed on the Northumberland County side of the creek. In addition, 0.3% of Northumberland County's federally-documented vessels have been added to Lancaster County's federally-documented total

To calculate the estimated number of facilities needed for the proposed NDZ areas, this application utilizes an Environmental Protection Agency formula, titled *Boater Sanitary Waste Reception Facility Requirements Worksheet* shown in Section 7, Page 62).

The data indicate a total of 4,983 vessels for Lancaster County. Of those, 636 are 26-to-40 feet in length, and 2,780 are 16-to-26 in length. To derive the estimated number of pumpout facilities and dump stations required for the area being proposed as a *No Discharge Zone*, the EPA formula

considers the number of vessels with holding tanks, the peak occupancy rates of marinas, and the average number of hours the marinas operate.

For this application, the calculation indicates that the need is one pumpout facility (0.98) and two dump stations (1.32) to serve the estimated 513 vessels (i.e. 411 requiring a dump station and 102 requiring a pumpout facility) expected to use such services (See Section 7, Page 62).

As noted in Section 3 above, Lancaster County has 4 marinas with both a dump station and pumpout facility for its customers within the proposed *No Discharge Zone*. See Section 3, Page 18.



## 4. ENFORCEMENT, SUPPORT, AND OUTREACH ACTIVITIES

### 4.1 State Regulations

The Virginia State Water Control Law (§62.1-44.33) addresses vessel discharges and provides authority for the State Water Control Board to adopt regulations controlling discharges from boats. This section of the law also provides that “Violation of such rules and regulations and violations of the prohibitions created by this section on the discharge of treated and untreated sewage from documented and undocumented boats and vessels shall, upon conviction, be a Class 1 misdemeanor. Every law-enforcement officer of this Commonwealth and its subdivisions shall have the authority to enforce the rules and regulations adopted and promulgated under the provisions of this section and to enforce the prohibitions on the discharge of treated and untreated sewage created by this section.”

The current boating regulation that results from this authority is entitled “Regulations Governing the Discharge of Sewage and Other Wastes from Boats” (9 VAC 25-71). This regulation contains a section that addresses No Discharge Zones:

- A. *All discharge of sewage, whether treated or not, and other wastes from all vessels into designated No Discharge Zones is prohibited. A listing of designated No Discharge Zones within the state appears at 9 VAC 25-71-70.*
- B. *Vessels without installed toilets shall dispose of any collected sewage from portable toilets or other containment devices at facilities approved by the Virginia Department of Health for collection of sewage wastes, or otherwise dispose of sewage in a manner that complies with state law.*
- C. *Vessels with installed toilets shall have a marine sanitation device to allow sewage holding capacity unless the toilets are rendered inoperable.*
- D. *Houseboats having installed toilets shall have a holding tank with the capability of collecting and holding sewage and disposing of collected sewage at a pump-out facility or other facility approved by the Virginia Department of Health for collection of sewage wastes; if a houseboat lacks such capability, the installed toilet shall be removed.*
- E. *Y-valves, macerator pump valves, or any other through-hull fitting valves capable of allowing a discharge of sewage from marine sanitation devices shall be secured in the closed position by a device that is not readily removable, including, but not limited to, a numbered container seal, such that through-hull sewage discharge capability is rendered inoperable.*
- F. *Every owner or operator of a marina within a designated No Discharge Zone shall notify boat patrons leasing slips of the sewage discharge restriction in the No Discharge Zone. As a minimum, notification shall consist of No Discharge Zone information in the slip rental contract and a sign indicating the area is a designated No Discharge Zone.*

### 4.2 Local Enforcement Capability

Should these waters be designated a *No Discharge Zone*, in addition to the U.S. Coast Guard, the Virginia Marine Police and the Virginia Department of Game and Inland Fisheries will be the state enforcing authorities. The U.S. Coast Guard Station at Milford Haven (on Hills Bay) is approximately

8.5 to 25 nautical miles southeast of the proposed *No Discharge Zones*. Both the Virginia Marine Resources Marine Patrol and the Department of Game and Inland Fisheries Game Wardens store boats on land and launch from public facilities in the area and patrol the proposed waters.

Additionally, DEQ and the VDH-DSS frequent these waters to monitor for pollutants. Both may act as an auxiliary to the state and federal police functions. Various enforcement methods are under review, including the use of NSF 60 fluorescent yellow/green dye tablets added to vessel holding tanks to detect illegal discharges. The dye tablets could be installed in holding tanks on a voluntary basis by marina operators and boaters, as well as by those using pumpout stations. Localities that have approved NDZs, such as Virginia Beach, have made the use of these tablets mandatory.

### 4.3 Local Public Support and Outreach

*No Discharge Zone* designation has the support of environmental interests represented by the Friends of the Rappahannock, as well as state agencies of the Commonwealth, including the Virginia Department of Health, the Virginia Marine Resources Commission, the Virginia Department of Conservation and Recreation, and the Virginia Department of Environmental Quality.

The public meeting took place on February 22, 2011 at the Lancaster County Administration Building. Comments received during the public-comment period following the meeting provided local input in regard to the proposed NDZ application. Comments and DEQ responses are attached in Section 9, Page 71. Comments and responses will be added following the public comment period.

### 4.4 Existing Point Source Pollution

The majority of land-based activities potentially contributing to bacteriological contamination of the subject waters remain to be addressed by the community, the county, and the state. Most of the waterfront homes in these watersheds are on individual or small-community septic fields, except for a handful connected to the sewage-treatment plants listed below.

The following facilities are permitted under the Virginia Pollutant Discharge Elimination System (VPDES) and are regulated by VA DEQ for the subject waters. Facilities permitted for bacteria discharge are inspected regularly and are required to report any exceedance of water quality standards in order to remain in compliance with their permit.

#### *VPDES Permits for Sanitary Discharges*

Facility Name	Permit Number	Receiving Water	Type of Permit
Kilmarnock Waste Water Treatment Plant	VA0020788	Un-named Trib Indian Creek	Municipal Minor (public)
Tides Utilities LLC North WWTP	VA0029343	Carter's Creek	Municipal Minor (private)
The Tides Utilities LLC South	VA0029351	Carter's Creek	Municipal Minor (private)
Windmill Point Resort and Yacht Harbor	VA0060569	Windmill Pt. MR Boat Basin	Municipal Minor (private)
Ampro Shipyard	VA0089303	Carter's Creek	Minor Industrial

Source: Virginia Department of Environmental Quality

There are also several sites with seafood permits, which have associated boat traffic :

*Seafood Permits (not permitted for bacteria discharge)*

Facility Name	Permit Number	Receiving Water	Type
W Ellery Kellum Incorporated	VAG524035	Carter's Creek	Seafood
Pride of Virginia Bait and Oyster Co. Inc.	VAG524039	Antipoision Creek	Seafood
Callis Seafood Incorporated	VAG524017	Town Creek	Seafood
E J Conrad and Sons Seafood Incorporated	VAG524044	Greenvale Creek	Seafood
Capn Toms Seafood	VAG524013	White House Creek	Seafood
Dymer Creek Seafood	VAG524007	George's Cove TRIB to Dymer Creek	Seafood

Source: Virginia Department of Environmental Quality

## 5. SUMMARY

The small tributaries that are the subject of this application need greater protection than the current federal standards afford. The shallow waters of these creeks are compromised by bacterial impairment, low dissolved oxygen, as well as conditions that impair the growth of aquatic plants. These conditions cause the waters of the subject creeks to violate state water-quality standards. While terrestrial pollution is a threat to these marine natural resources and is acknowledged to be a major indirect source, vessel pollution is a direct source which is deposited to creek waters, and therefore, may have a more imminent impact on the local water quality in the creeks, as well as the oyster resources which inhabit them.

Pumpout facilities and dump stations are present in either the affected waters or their vicinity, as listed in Section 3, Page 18. These facilities provide for the proper disposal and treatment of collected wastes.

Enforcement and public outreach can be provided by the Sheriff Department, the U.S. Coast Guard, the Virginia Marine Police, the Virginia Department of Environmental Quality, the Department of Conservation and Recreation, the Virginia Department of Health, and local government.

The Commonwealth of Virginia believes the waters addressed in this application are appropriate candidates for designation as a *No Discharge Zone*.

## 6. MAPS

### 6.1 Mulberry Creek and Deep Creek – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission



## 6.2 Greenvale Creek and Paynes Creek – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission

### 6.3 Beach Creek – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission



#### 6.4 Whitehouse, Town, Myer, Moran, and Taylor Creeks (Tributaries of the Corrotoman River) – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission

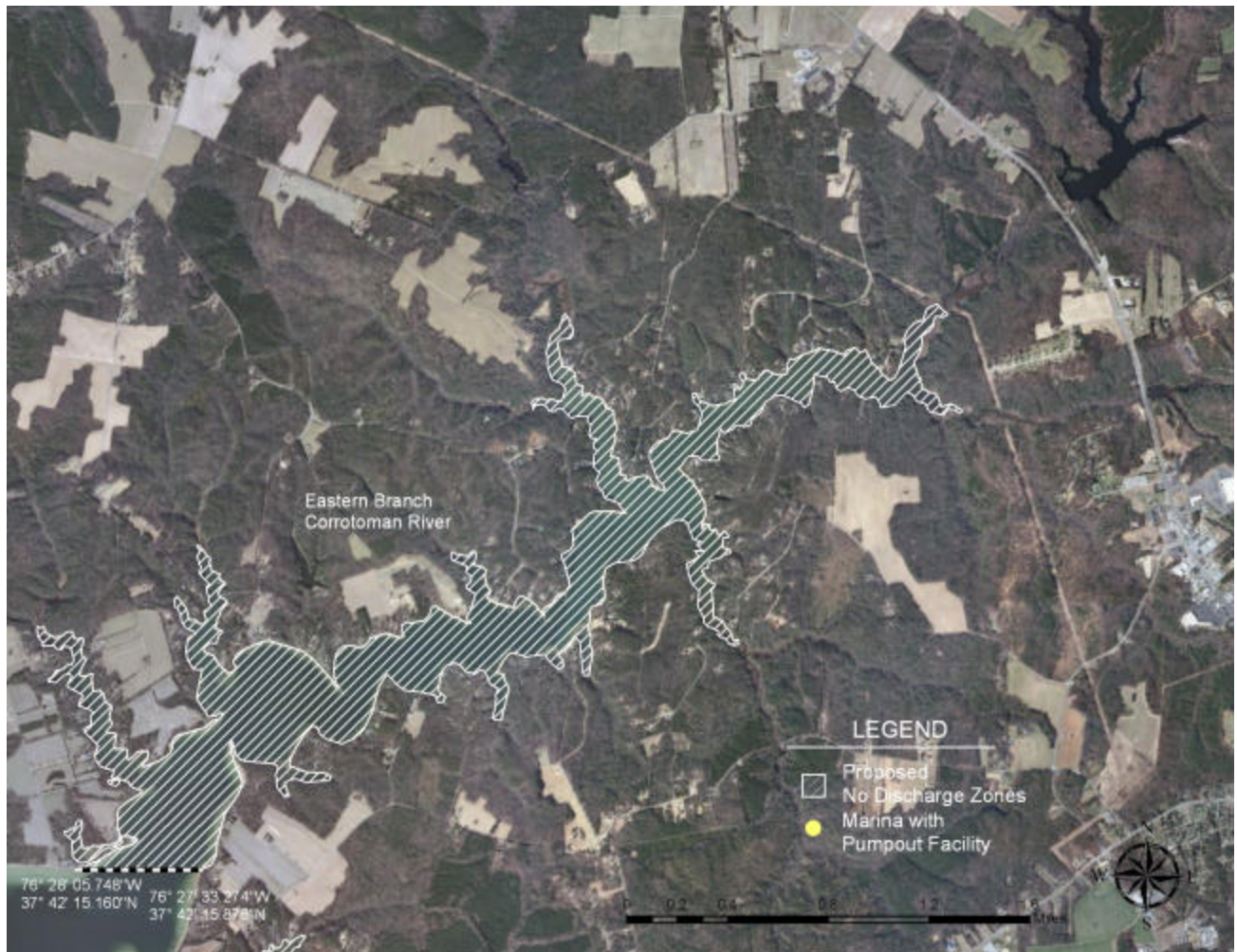
## 6.5 Western Branch, Corrotoman River – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission



## 6.6 Eastern Branch, Corrotoman River – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission

## 6.7 Carter Creek – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission



## 6.8 Mosquito and Windmill Point Creeks, with Windmill Point Resort Boat Basin – Proposed No Discharge Zone



Source: Northern Neck Planning District Commission

## 6.9 Antipoison, Davenport, and Tabbs Creeks – Proposed No Discharge Zone



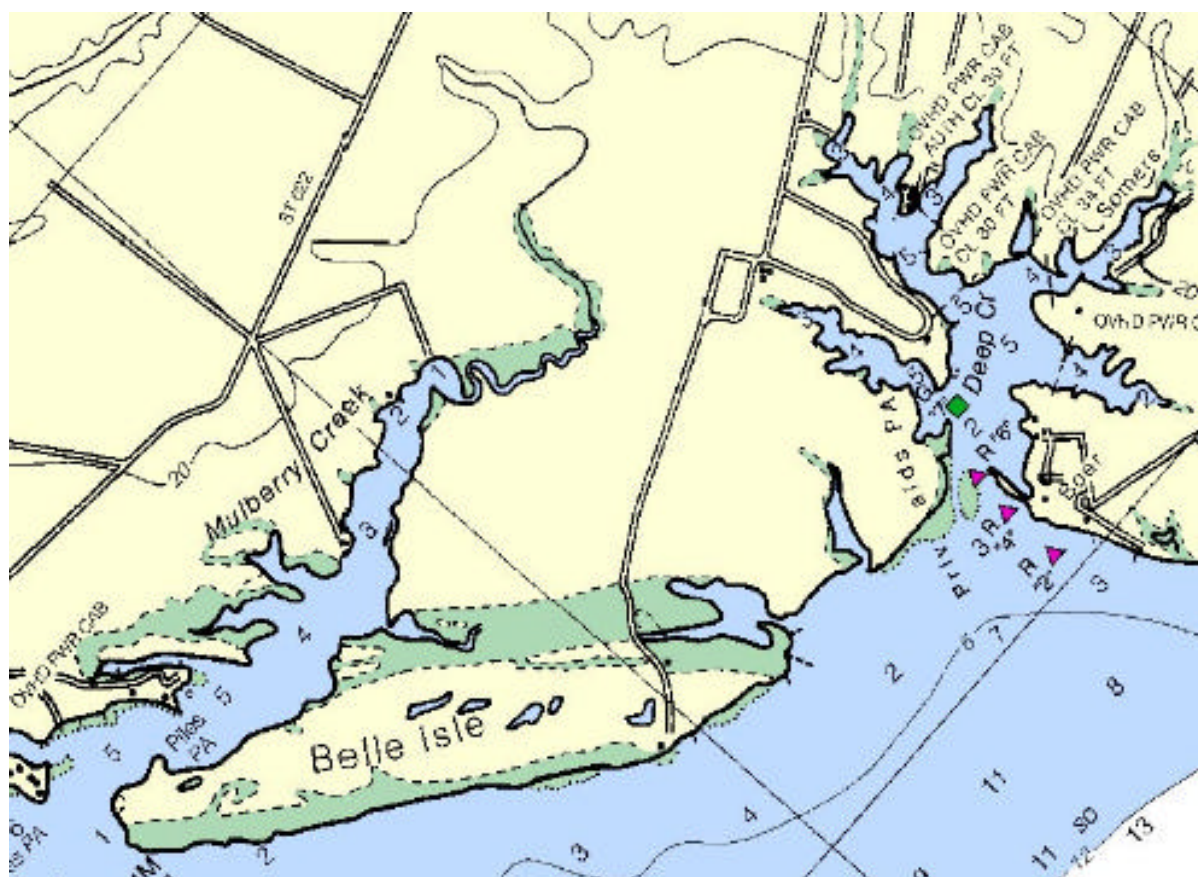
Source: Northern Neck Planning District Commission



## 6.10 Dymer and Indian Creeks – Proposed No Discharge Zone



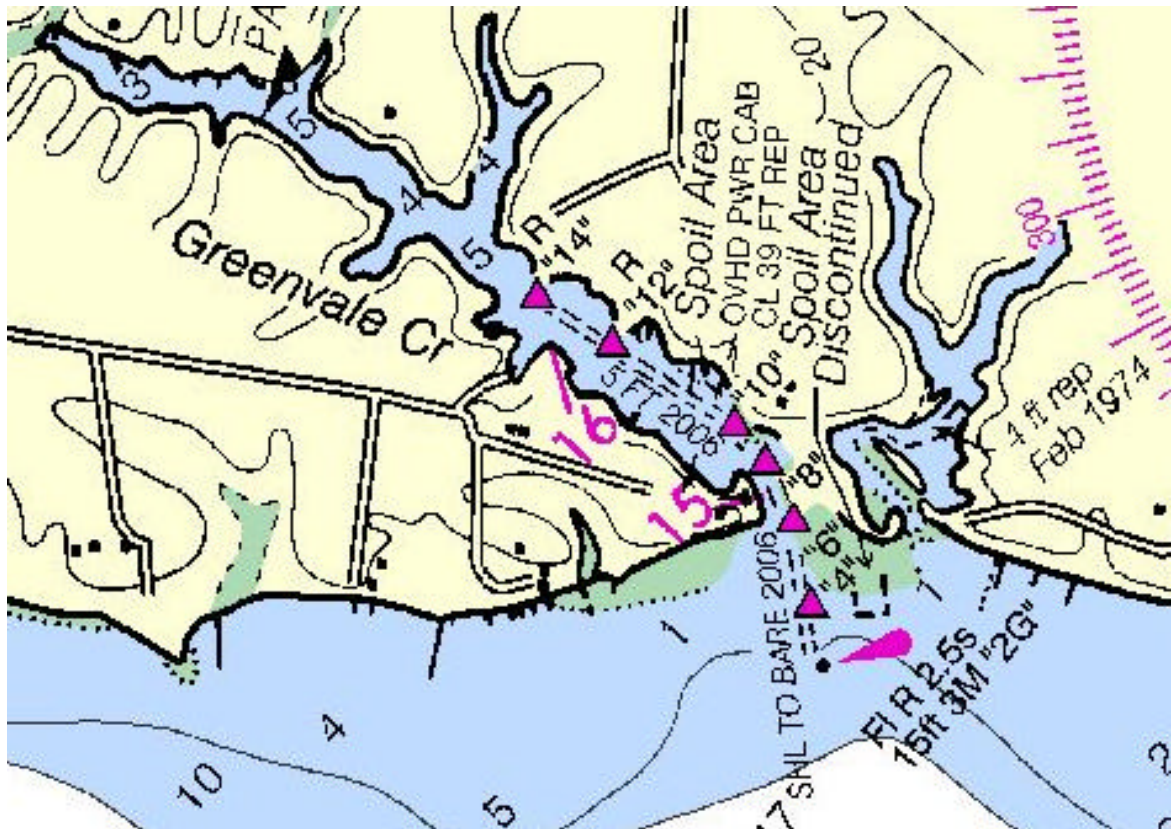
### 6.11 Mulberry Creek and Deep Creek – Water Depths



Source: <http://www.charts.noaa.gov/OnLineViewer/12237.shtml>

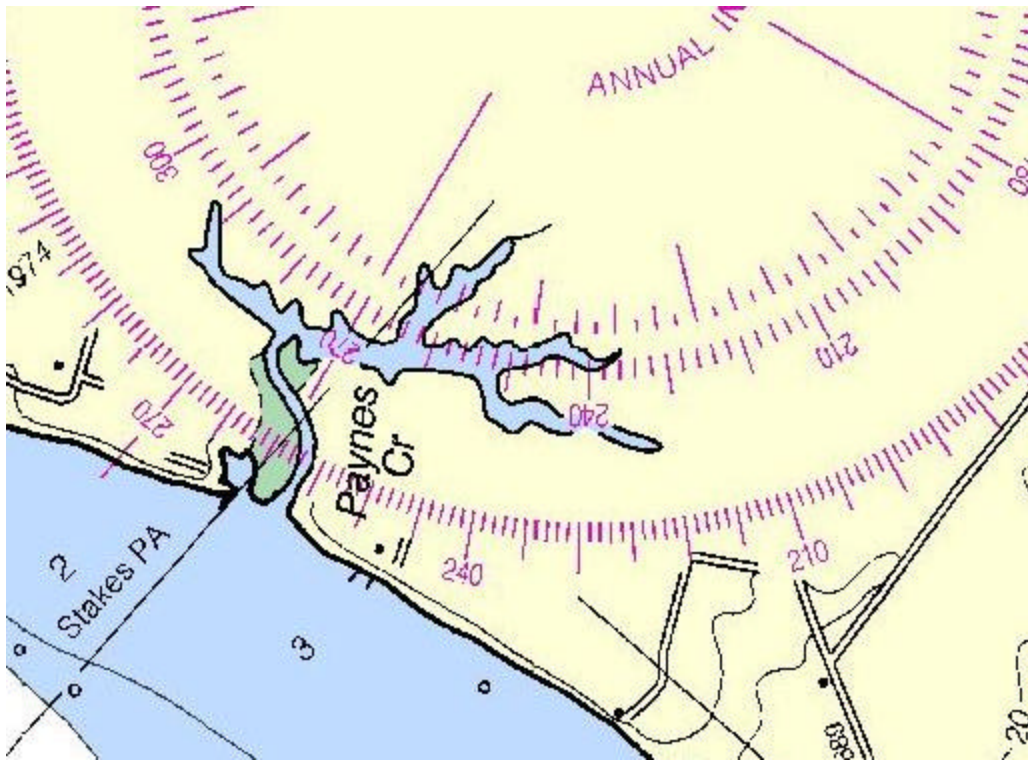


## 6.12 Greenvale Creek – Water Depths



Source: <http://www.charts.noaa.gov/OnLineViewer/12237.shtml>

### 6.13 Paynes Creek – Water Depth

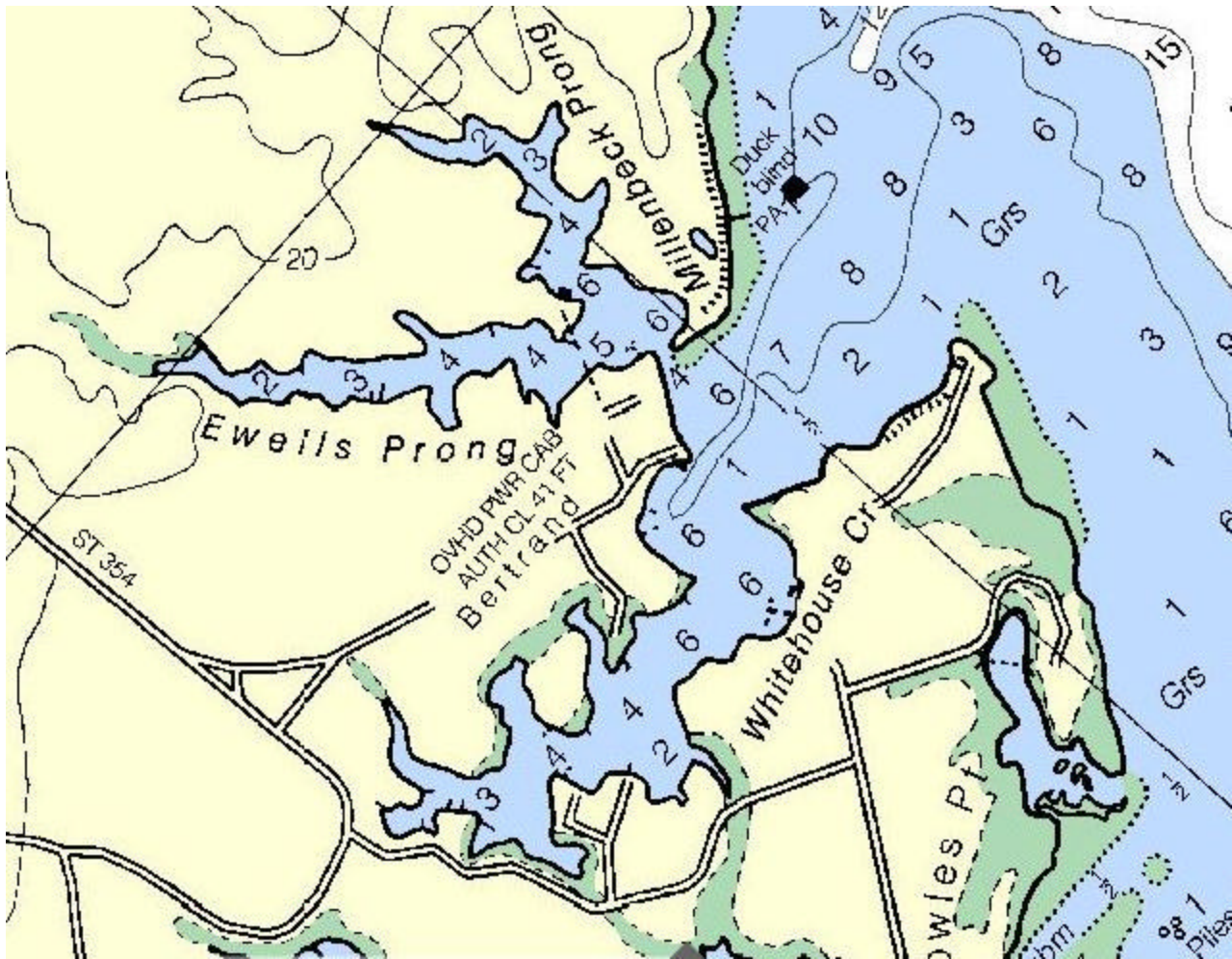




### 6.14 Beach Creek – Water Depth

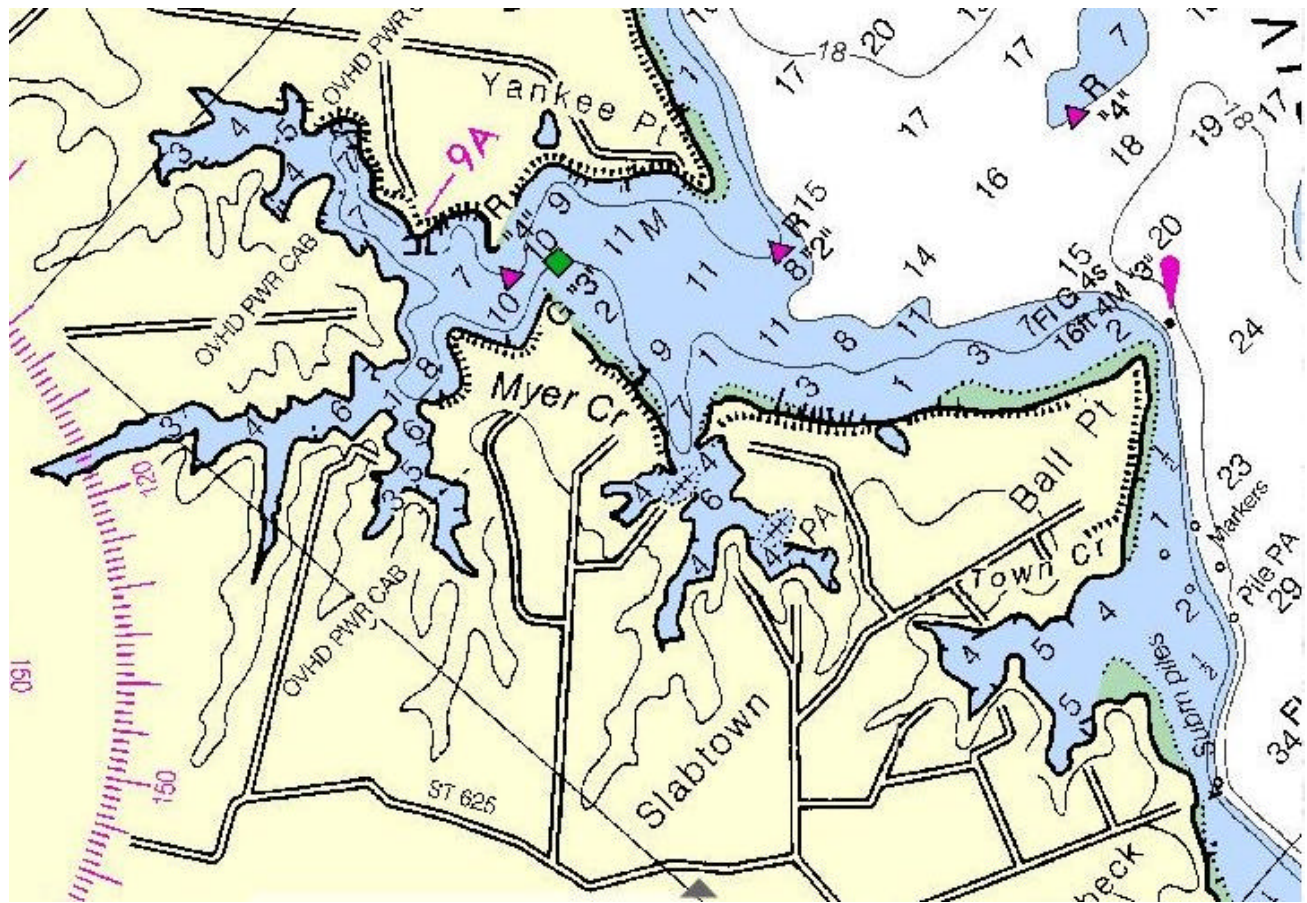


## 6.15 Whitehouse Creek – Water Depth



Source: <http://www.charts.noaa.gov/OnLineViewer/12237.shtml>

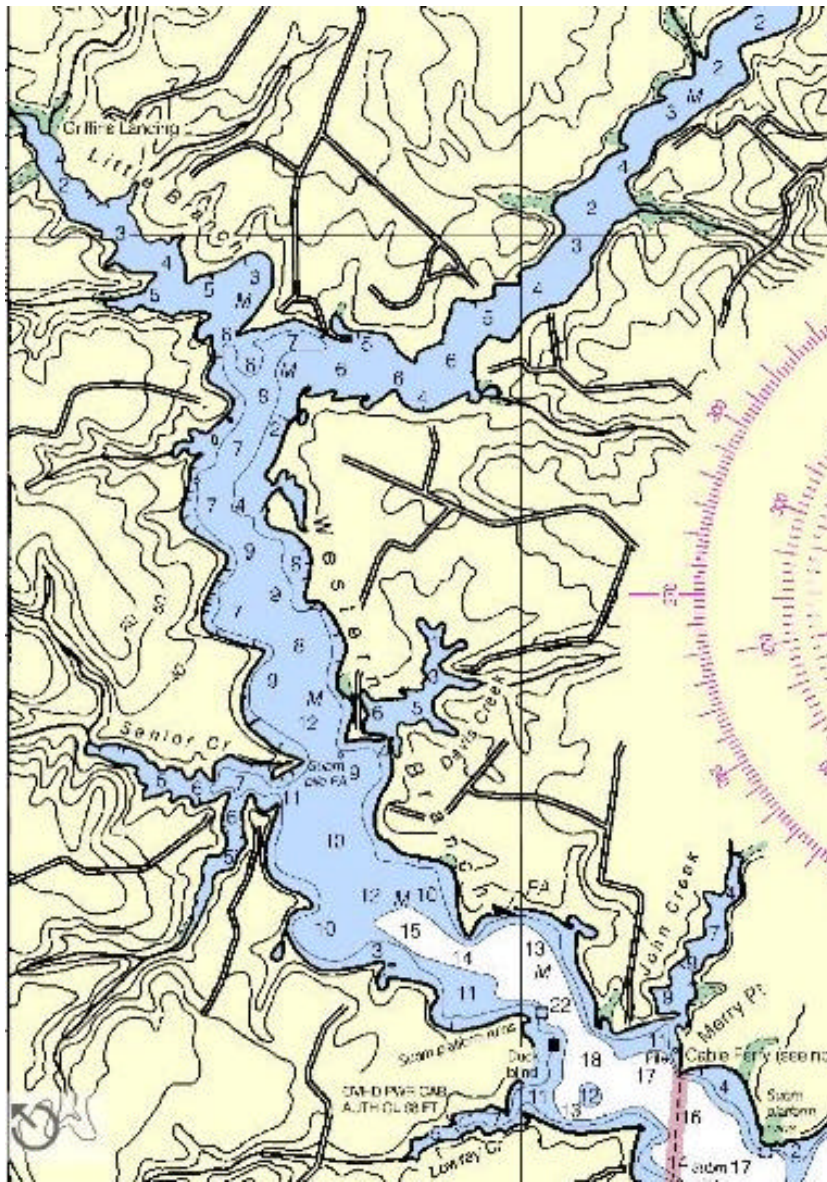
## 6.16 Town and Myer Creeks – Water Depth



Source: <http://www.charts.noaa.gov/OnLineViewer/12237.shtml>

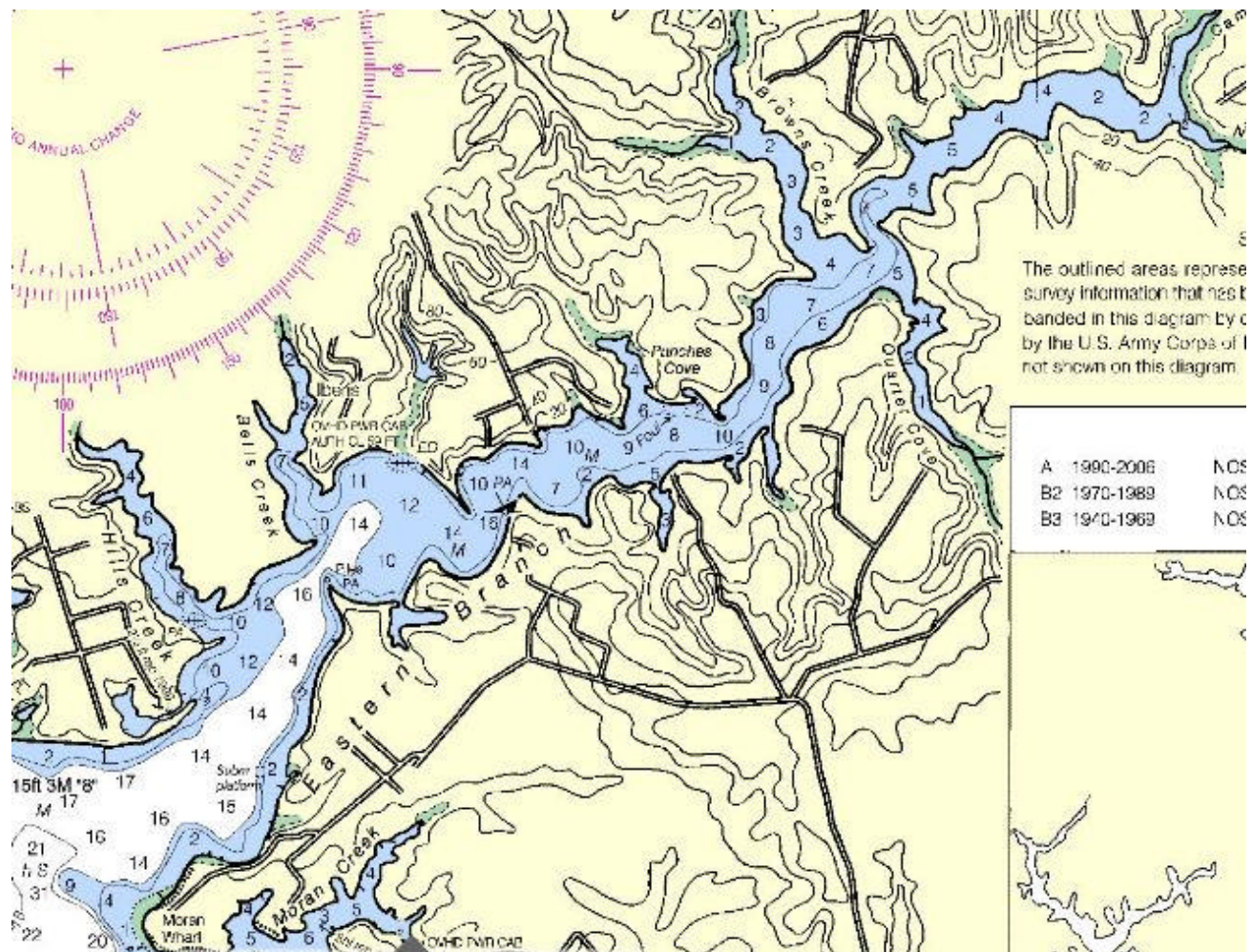


### 6.17 Western Branch, Corrotoman River – Water Depth



Source: <http://www.charts.noaa.gov/OnLineViewer/12235.shtml>

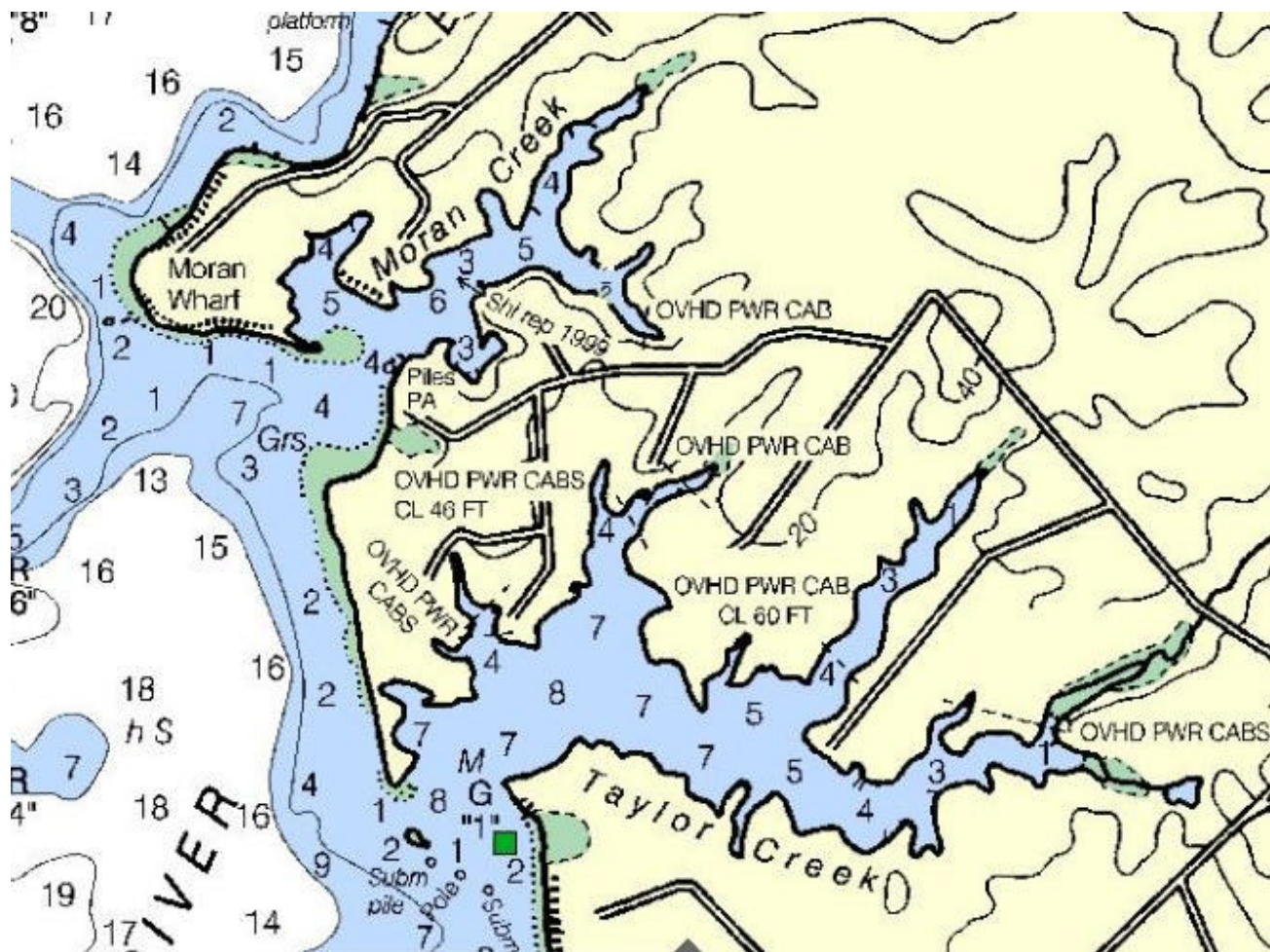
## 6.18 Eastern Branch, Corrotoman River – Water Depth



Source: <http://www.charis.noaa.gov/OnLineViewer/12235.shtml>

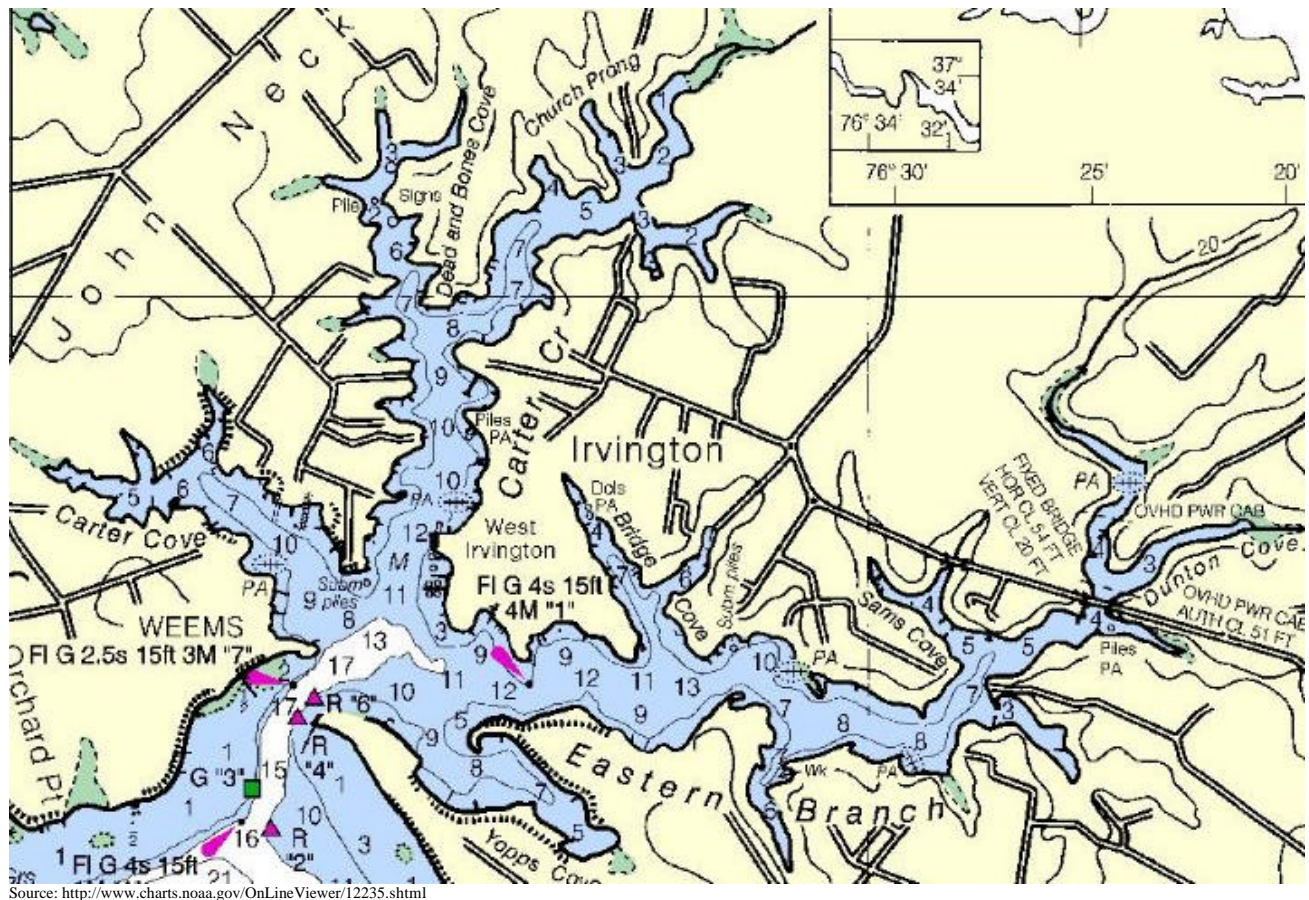


## 6.19 Moran Creek and Taylor Creek – Water Depth



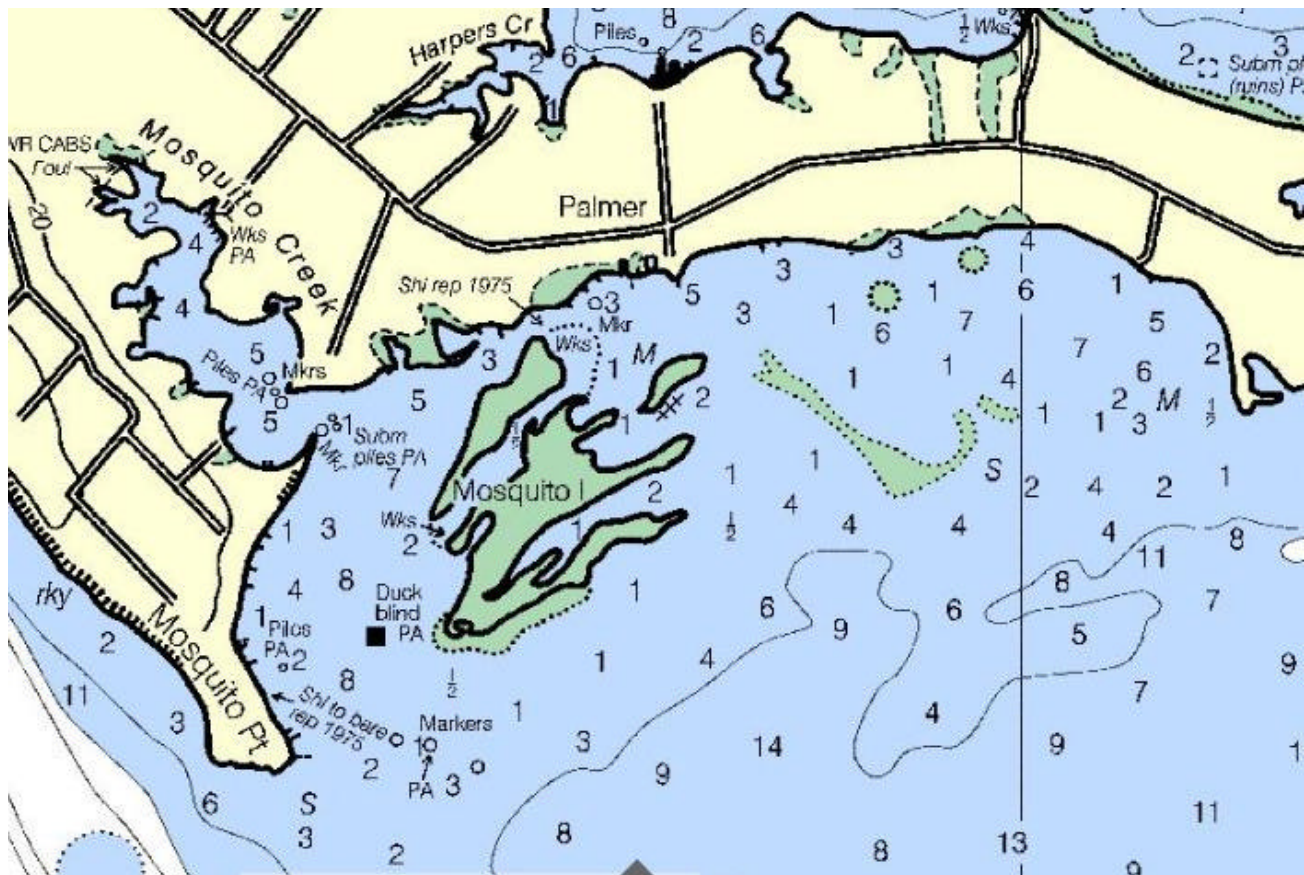
Source: <http://www.charts.noaa.gov/OnLineViewer/12235.shtml>

## 6.20 Carter Creek – Water Depth





## 6.21 Mosquito Creek – Water Depths

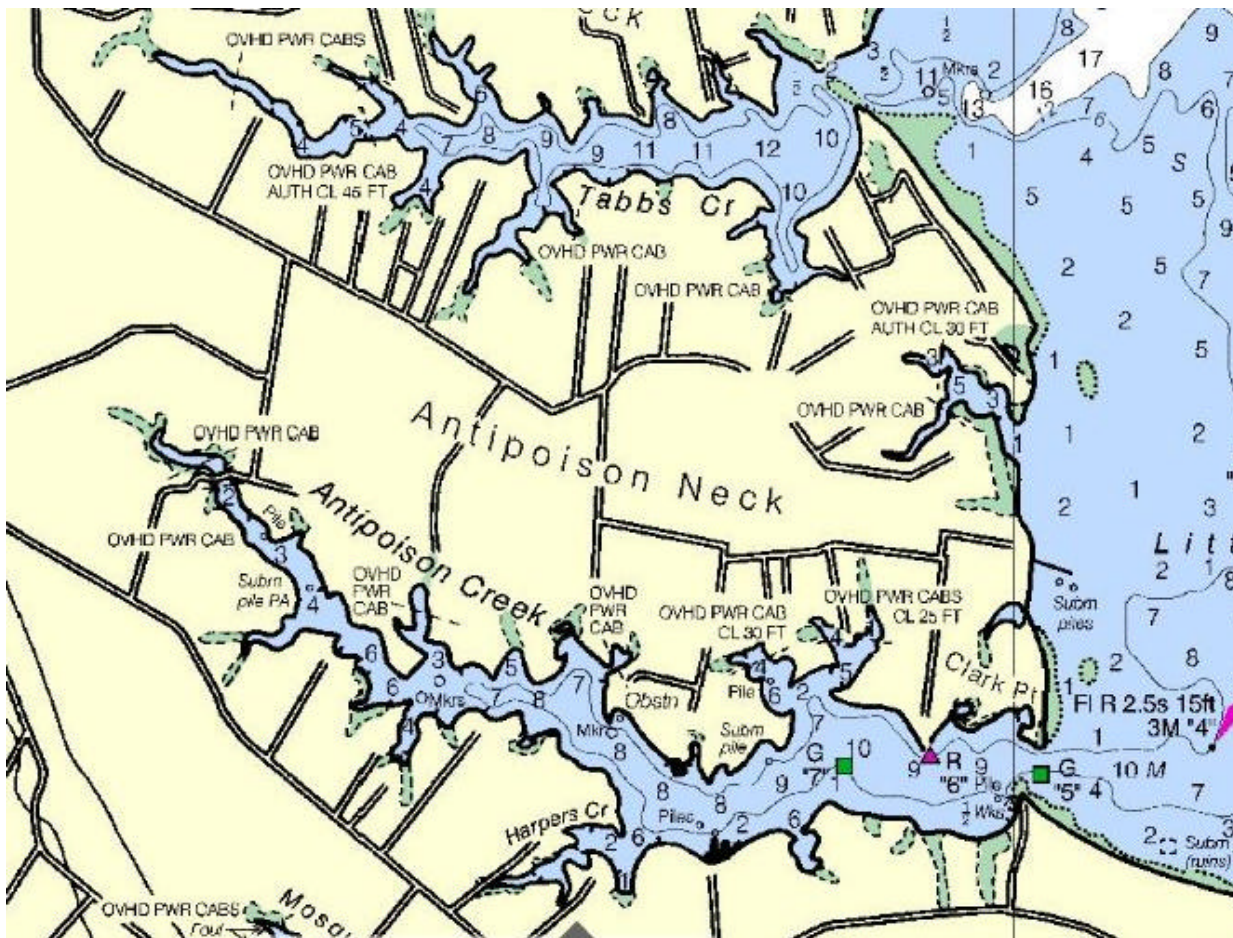


Source: <http://www.charts.noaa.gov/OnLineViewer/12235.shtml>



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## 6.23 Antipoison, Davenport, and Tabbs Creeks – Water Depths

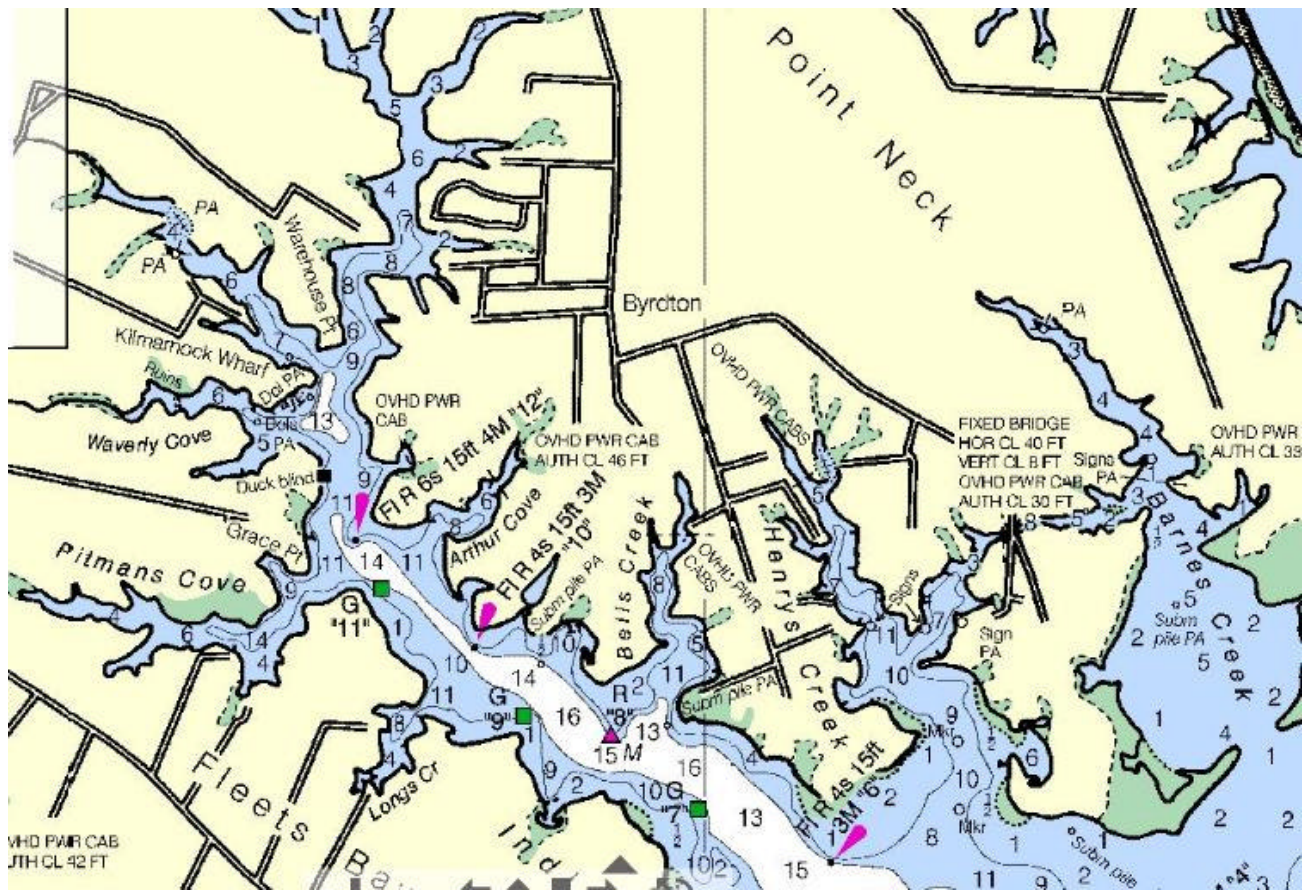


Source: <http://www.charts.noaa.gov/OnLineViewer/12235.shtml>



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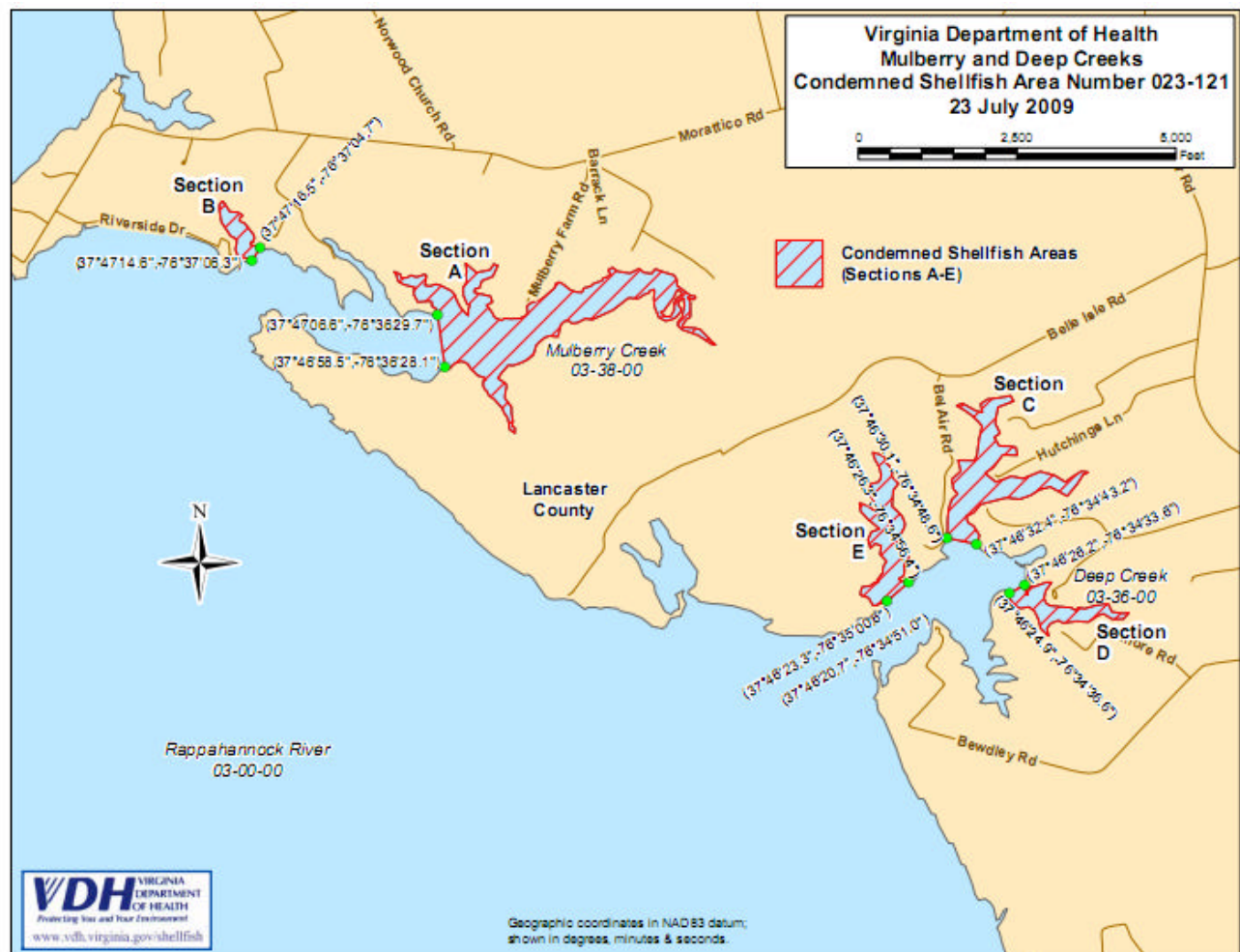
## 6.25 Indian Creek – Water Depths



Source: <http://www.charts.noaa.gov/OnLineViewer/12235.shtml>



## 6.26 Mulberry and Deep Creeks – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond023-121.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

## 6.27 Greenville and Paynes Creeks – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond022-094.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>



## 6.28 Beach Creek – Condemned Shellfish Area Map



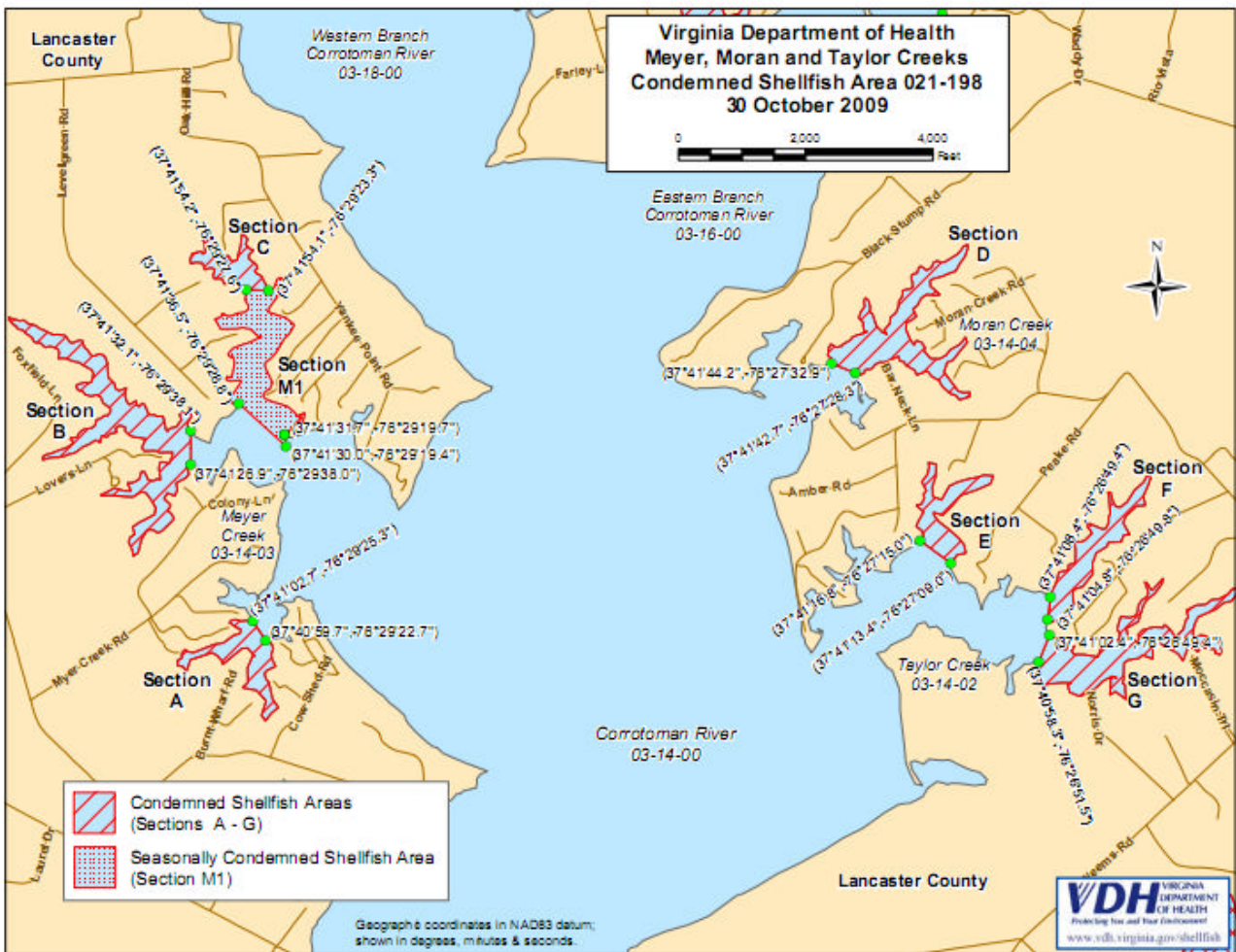
Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond022-116.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

## 6.29 Whitehouse Creek – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond022-187.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

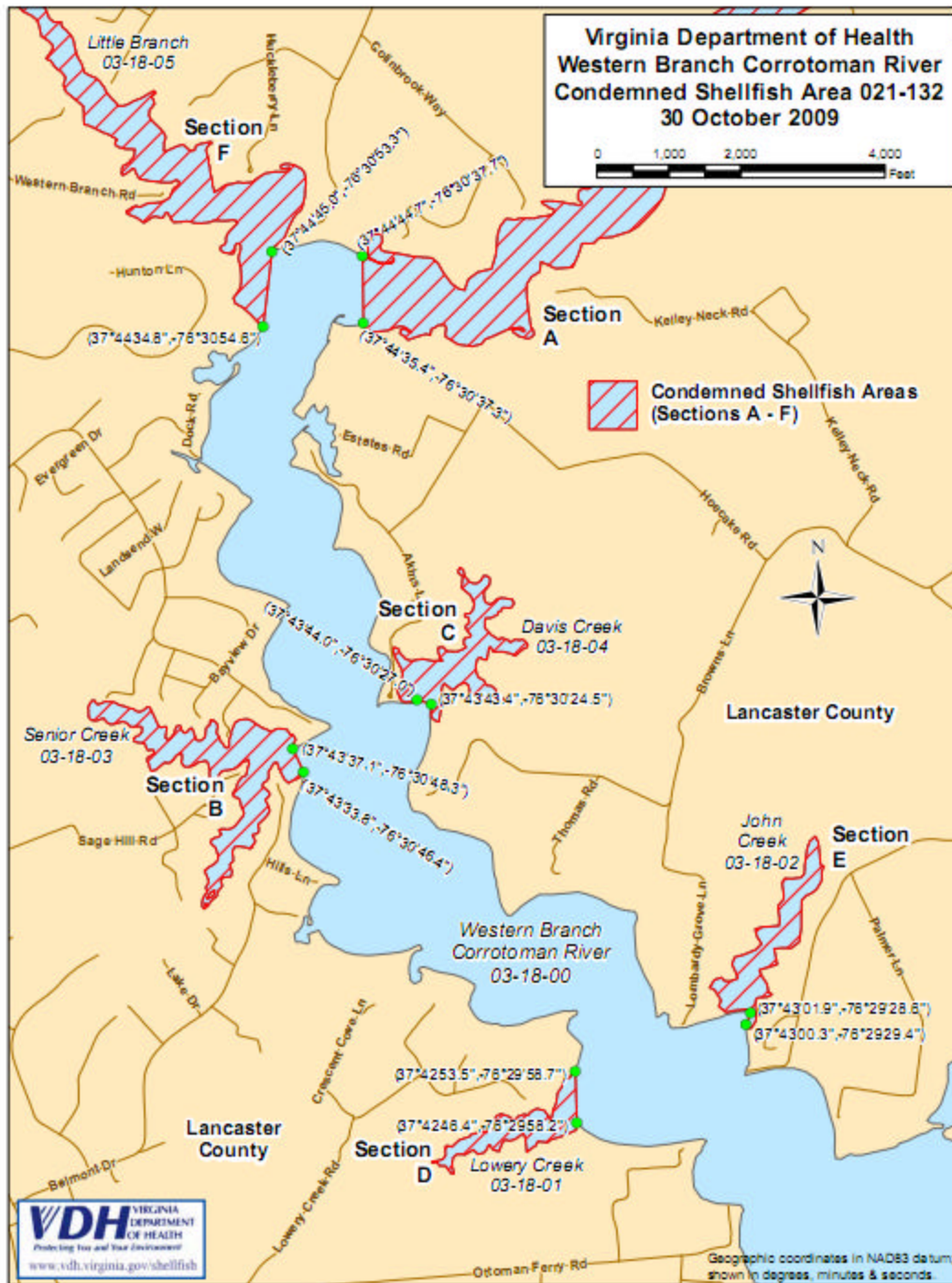
### 6.30 Myer, Moran, and Taylor Creeks – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond021-198.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

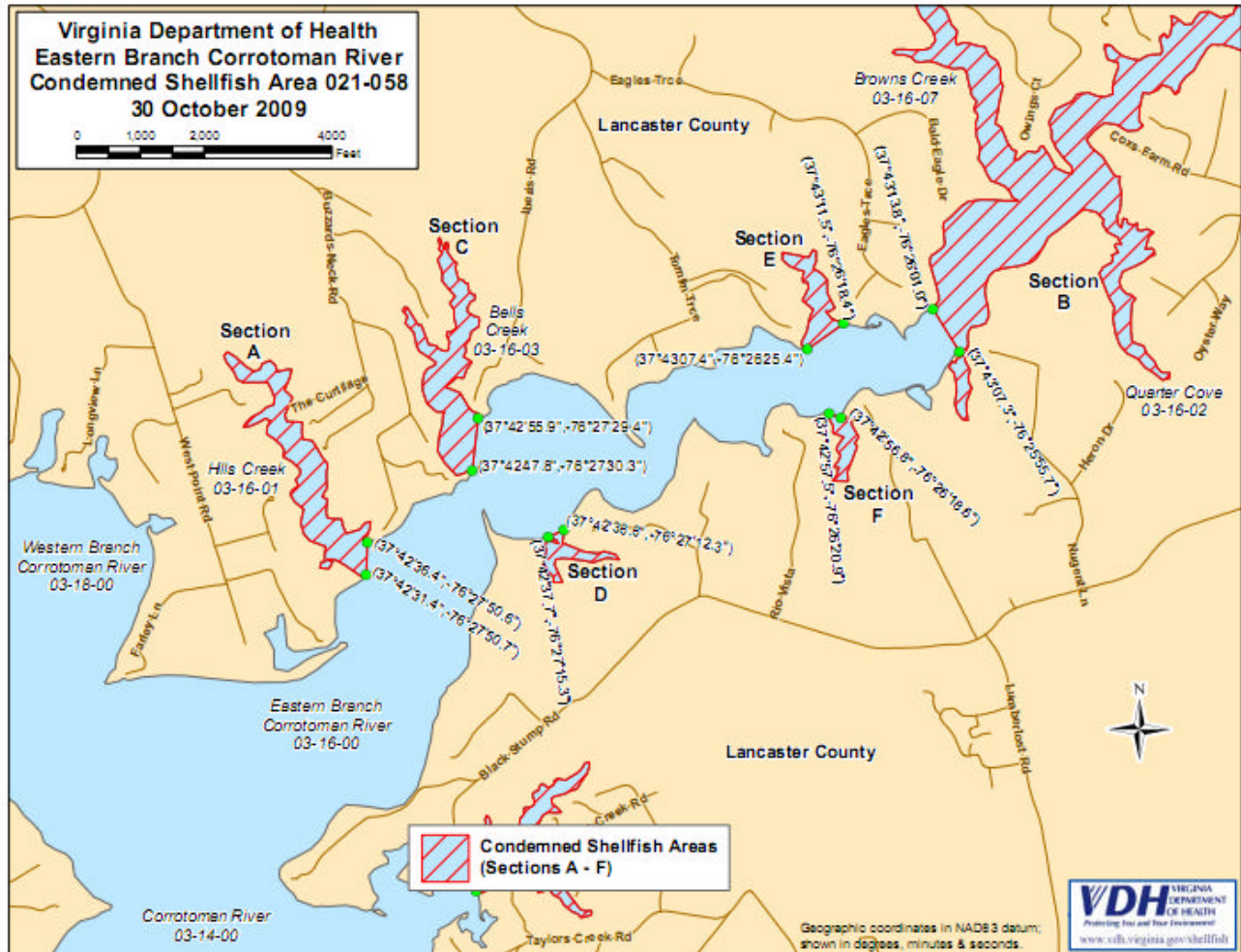


## 6.31 Western Branch, Corrotoman River – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond021-132.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

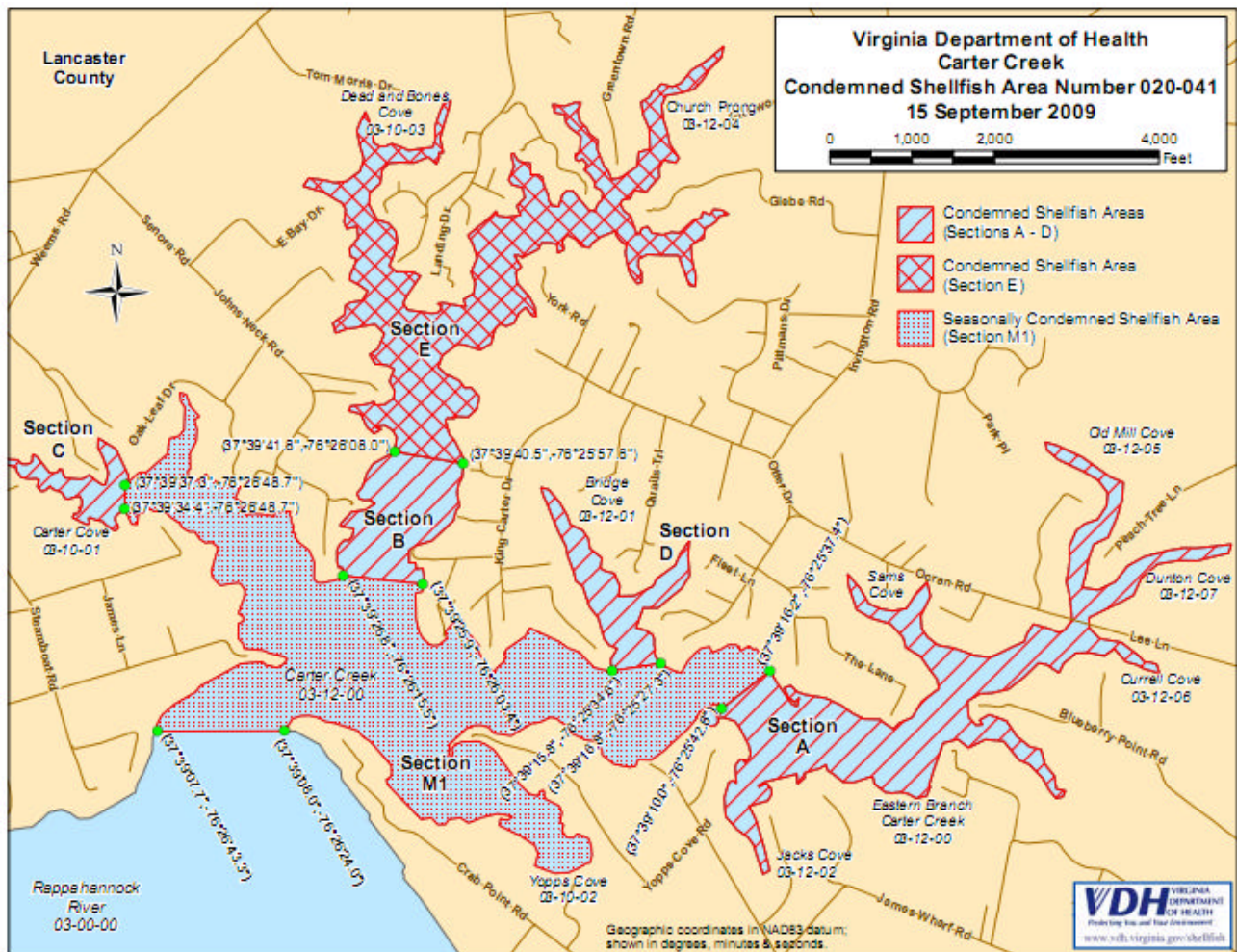
## 6.32 Eastern Branch, Corrotoman River – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond022-058.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>



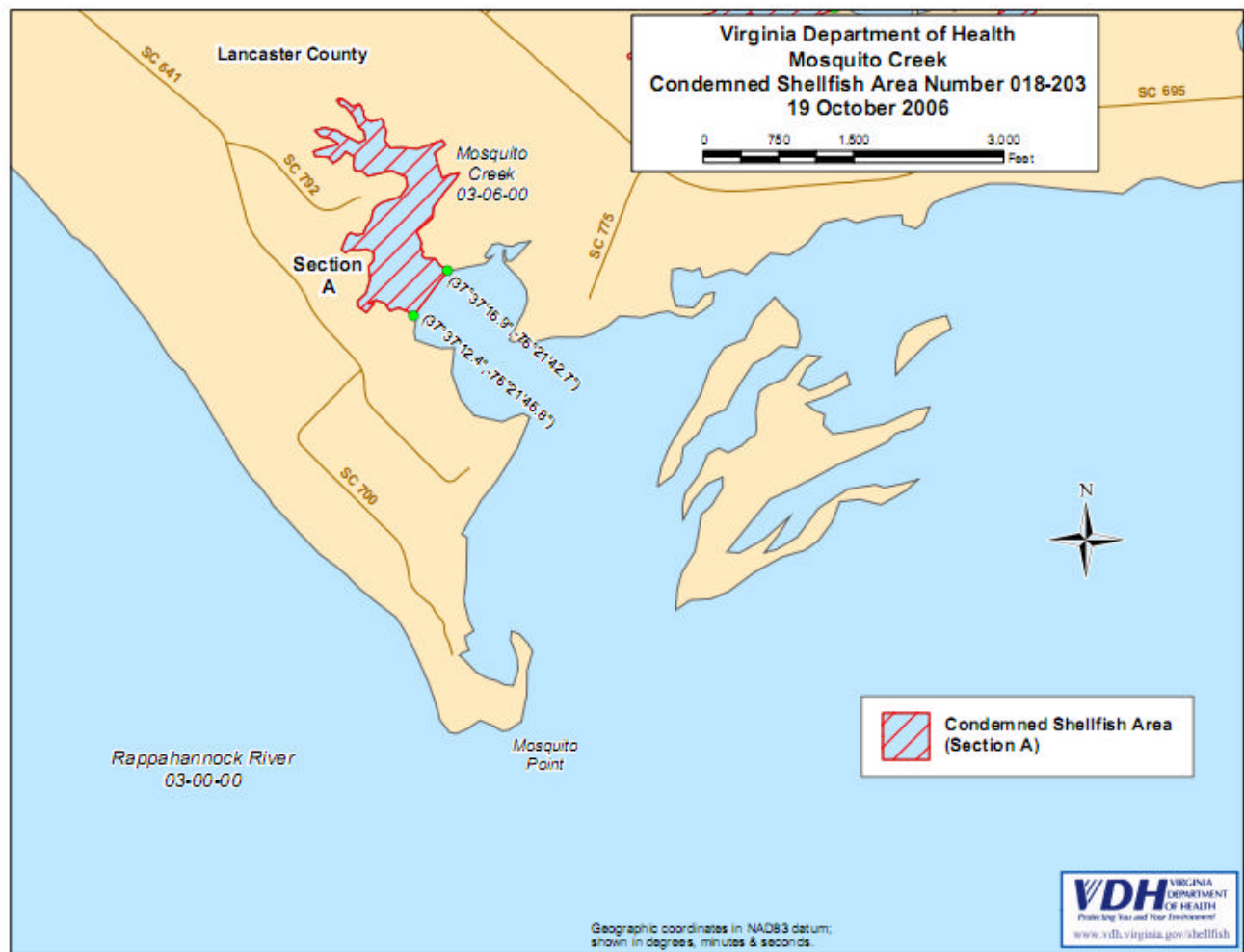
### 6.33 Carter Creek – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond020-041.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

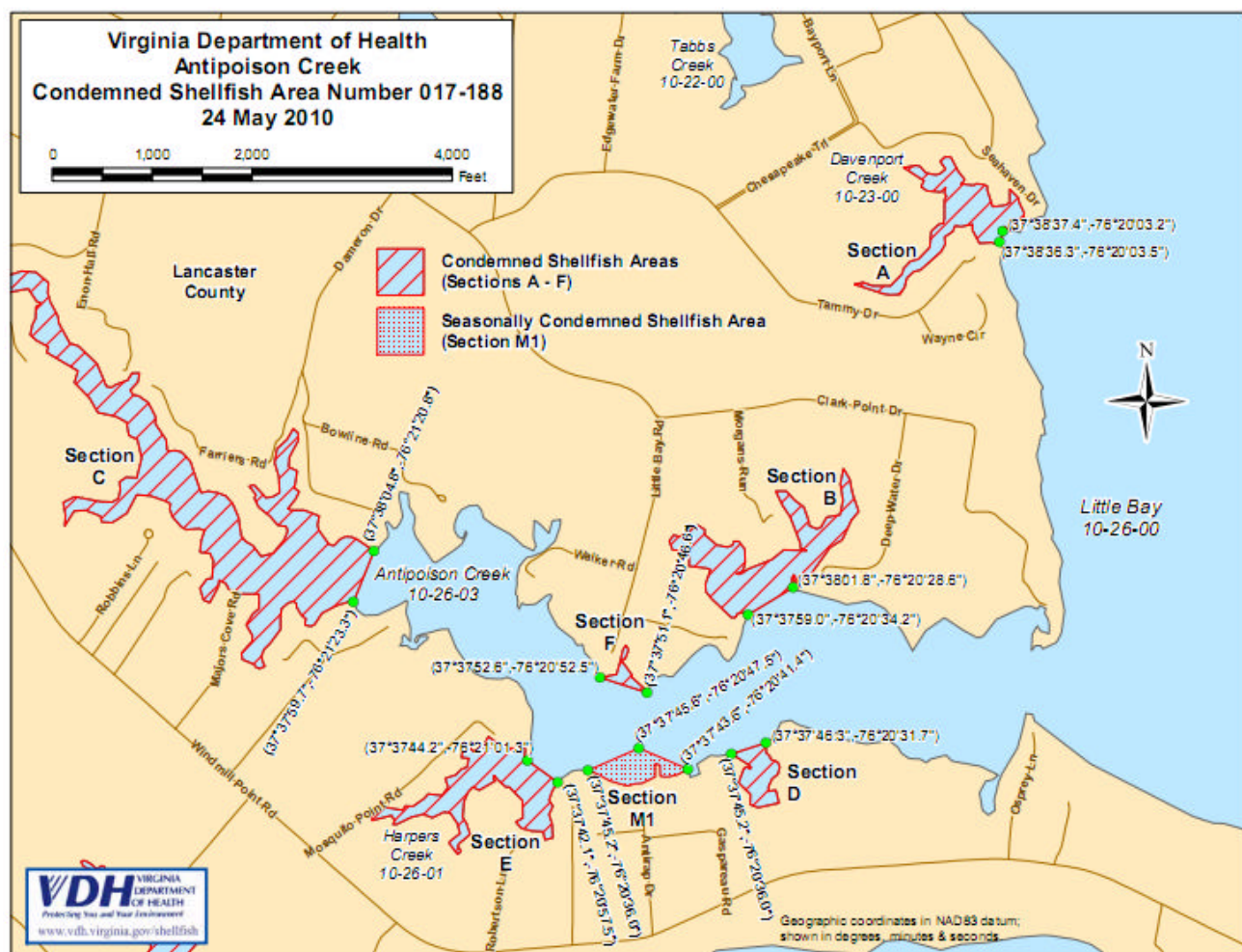


## 6.34 Mosquito Creek – Condemned Shellfish Area Map



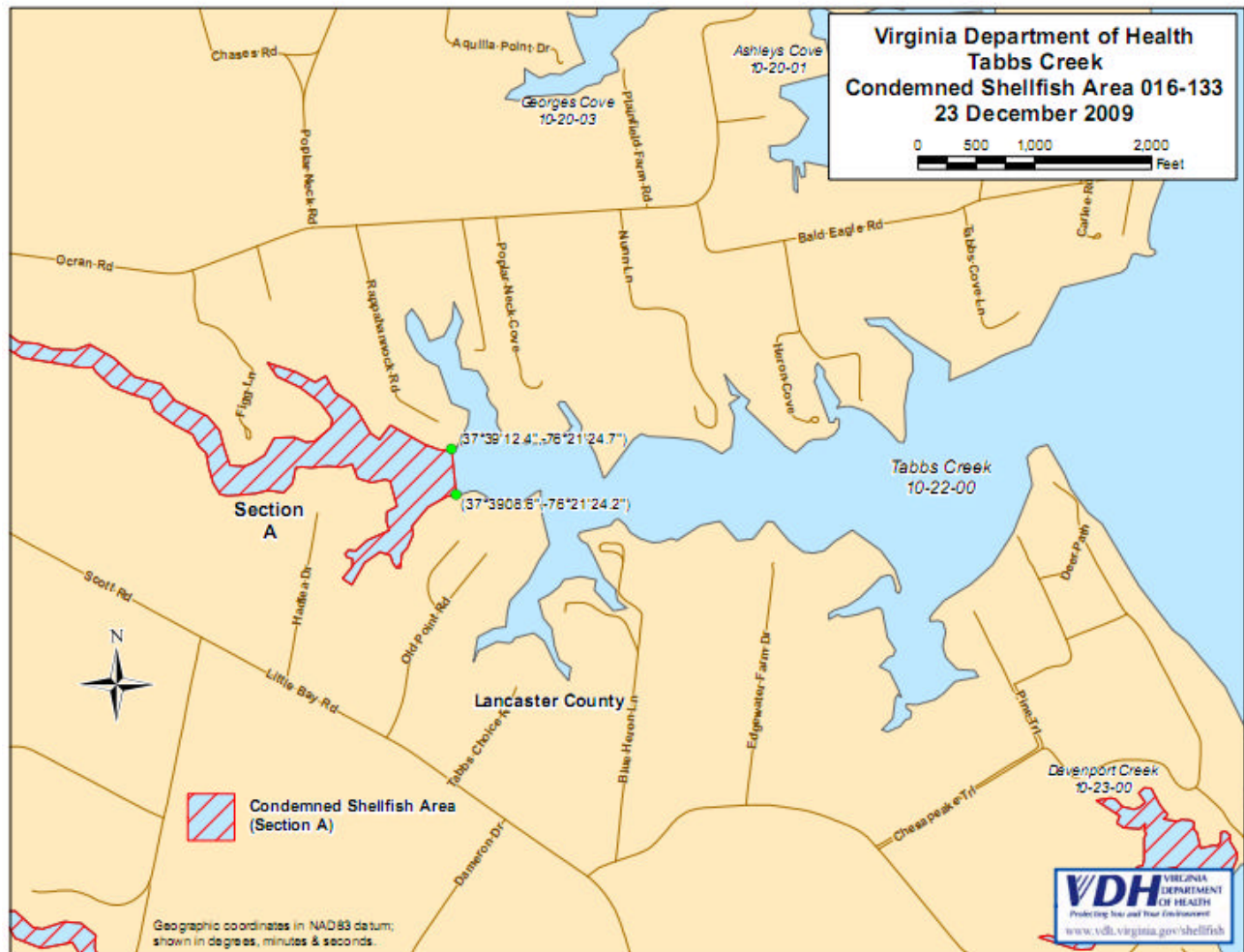
Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond018-203.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

## 6.35 Antipoison and Davenport Creeks – Condemned Shellfish Area Map



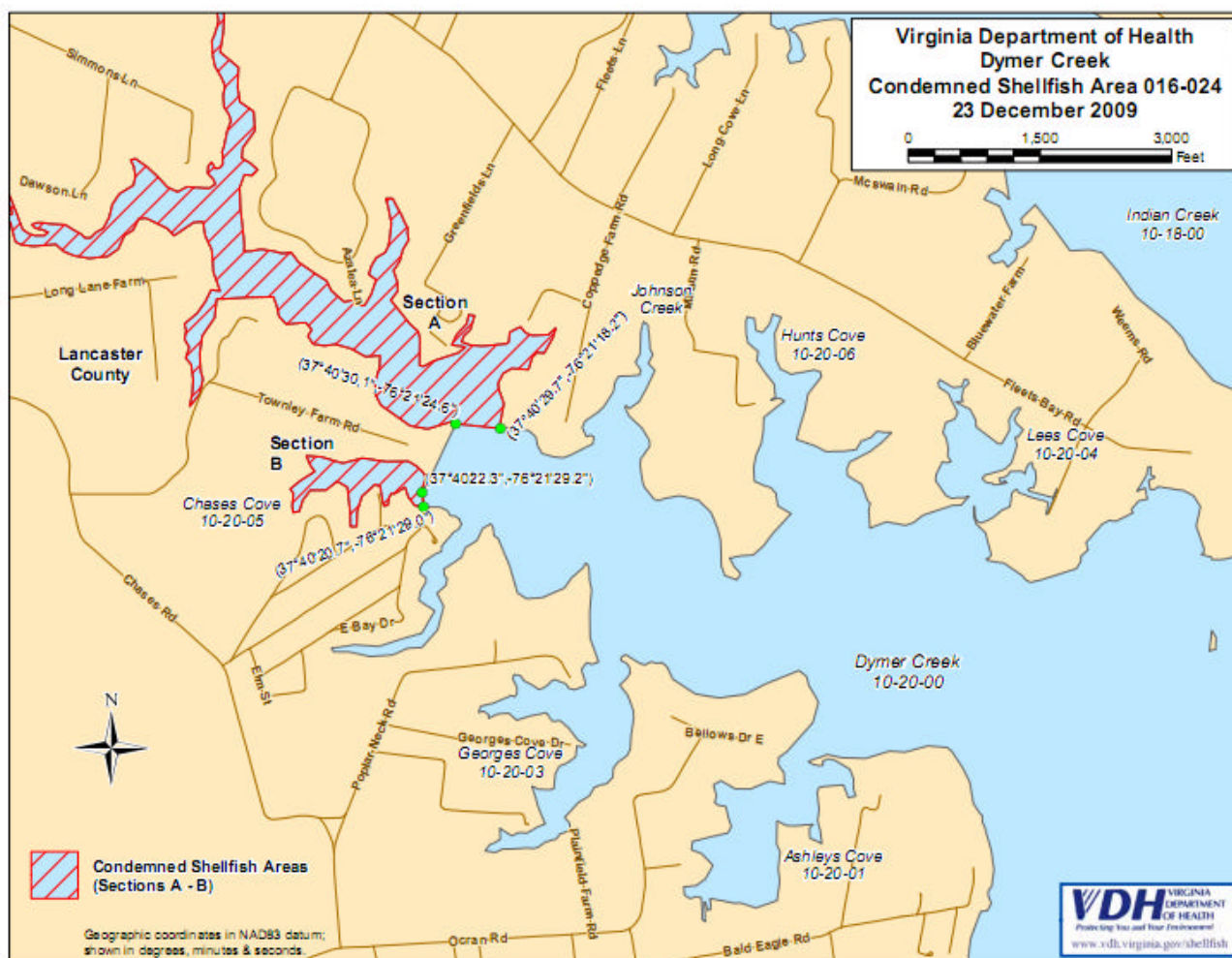
Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond017-188.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

## 6.36 Tabbs Creek – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond016-133.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

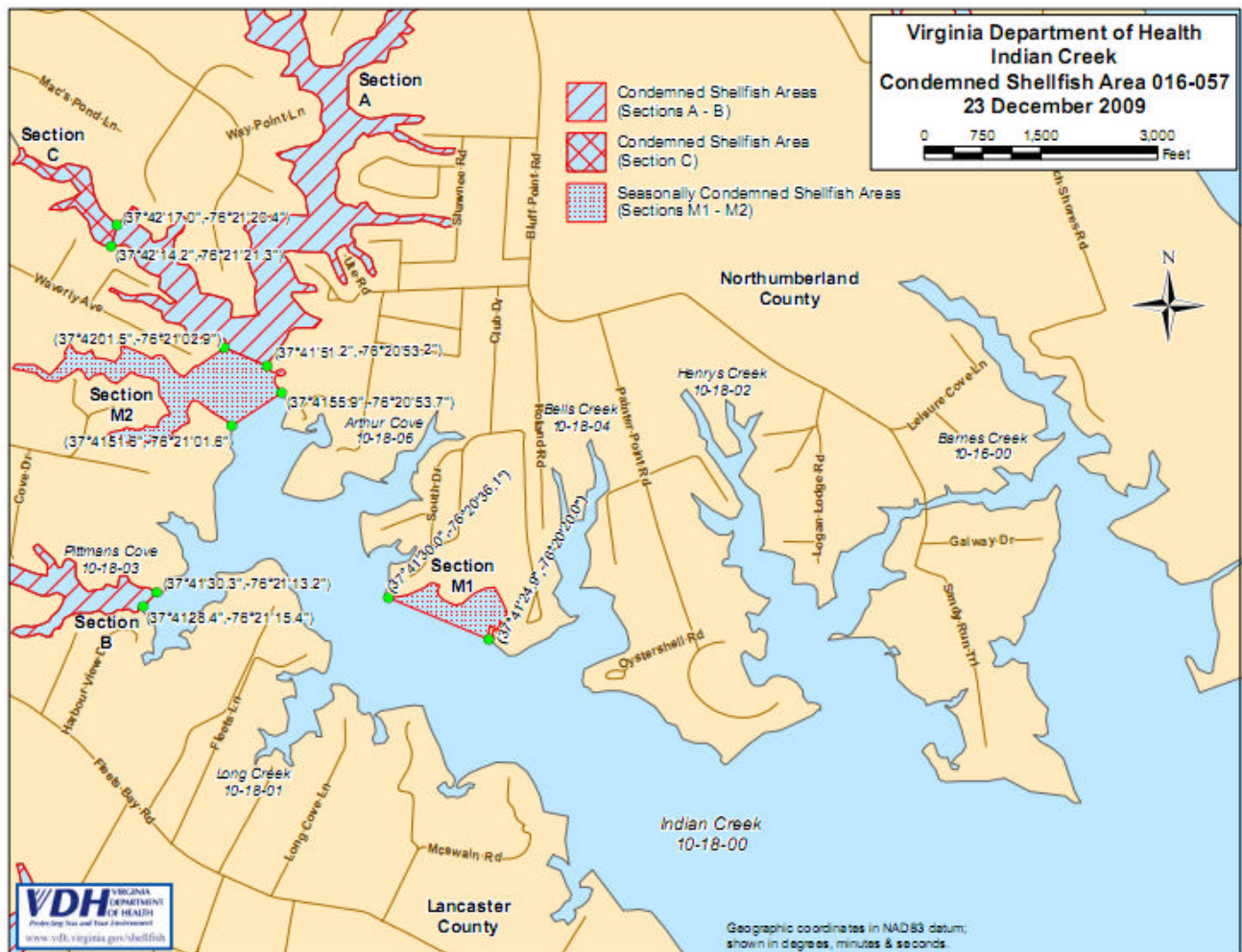
### 6.37 Dymer Creek – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond016-024.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>



## 6.38 Indian Creek – Condemned Shellfish Area Map



Source: <http://www.vdh.state.va.us/EnvironmentalHealth/shellfish/closure/cond016-057.pdf>  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey>

## 7. FACILITY REQUIREMENTS WORKSHEET

### LANCASTER COUNTY

VESSEL LENGTH	Field Data	DGIF Data	VDH Data	Documented	ESTIMATE <sup>1</sup>
Less than 16 feet	-	1,471	-	-	1,471
16 to 26 feet <sup>3</sup>	205	2,761	233	19	2,780
27 to 40 feet <sup>3</sup>	99	345	285	291	636
Over 40 feet	68	7	-	89	96
<b>TOTAL</b>	<b>372</b>	<b>4,583</b>	<b>518</b>	<b>400</b>	<b>4,983</b>

Data set used in calculation <sup>4</sup>:      No                      Yes                      No                      Yes

Estimate of Required Pumpout Facilities	
A) Number of vessels 27-40 ft. in length	636
B) Enter % of 27-40 ft. vessels with holding tanks in Virginia <sup>2</sup>	25%
C) Estimated number of 27-40 ft. vessels with holding tanks (multiply lines A and B)	159
D) Enter the number of vessels greater than 40 ft. in length	96
E) Estimated total number of vessels with holding tanks (addition of lines C and D)	255
F) Estimated peak occupancy rate (i.e. on a holiday weekend; if unknown, use 40%)	40%
G) Estimated number of vessels requiring pumpout facilities (multiply lines E and F)	102
H) Average number of vessels served per hour per pumpout (if unknown, use 4/hr)	4
I) Average number of weekend operating hours per facility (if unknown, use 24 hrs.)	26
J) Estimated number of vessels served per pumpout facility (multiply lines H and I)	104
<b>K) Estimated number of pumpout facilities required (divide line G by line J)</b>	<b>0.98</b>

Estimate of Required Dump Stations	
L) Number of vessels 16-26 ft. in length	2,780
M) Enter % of 16-26 ft. vessels with portable toilets in Virginia <sup>2</sup>	37%
N) Estimated number of vessels with portable toilets (multiply lines L and M)	1,028.5
O) Estimated peak occupancy rate (if unknown, use 40%)	40%
P) Estimated number of vessels requiring dump stations (multiply lines N and O)	411.4
Q) Average number of vessels served per hour per station (if unknown, use 12/hr)	12
R) Average number of weekend operating hours per station (if unknown, use 24 hrs.)	26
S) Estimated number of vessels served per dump station (multiply lines Q and R)	312
<b>T) Estimated number of dump stations required (divide line P by line S)</b>	<b>1.32</b>

Source: Environmental Protection Agency, Document Number EPA 842-B-94-004, August 1994 - <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P1007NAG.txt>

- Lancaster County DGIF data includes additional boats from Northumberland County, in proportion to half of Indian Creek, which is part of Lancaster County's NDZ application; minus boats for the half of Lancaster Creek, which were allocated to the Richmond County NDZ application. The boats added represent 0.3% of Northumberland's DGIF totals. The 0.3% came from the number of E911 structures that are part of Indian Creek's watershed, on the Northumberland County side. In addition, 0.3% of Northumberland County's federally-documented vessels were added to Lancaster County's total federally-documented vessels. The boats subtracted represent 2.6% of DGIF totals and Federally Documented totals for Lancaster County, based on the E911 structures that are part of Lancaster Creek, which is part of the Richmond County NDZ application.
- Source: "Clean Vessel Act: Pumpout Station and Dump Station Technical Guidelines," Federal Register, Vol. 59, No. 47, March 10, 1994; and "National Recreational Boating Survey: Sanitation Pumpout Questionnaire Tabulations," U.S. Department of Fish and Wildlife Service, January 1992.
- Original worksheet's 26-to-40-foot category adjusted to 27-to-40, to avoid overlaps.
- In the interest of avoiding double-counting, and of obtaining a conservative estimate of the number of facilities needed to provide pumpout and dump-station services for every potential vessel in the proposed *No Discharge Zone*, this application only uses the combined totals from the Virginia Department of Game and Inland Fisheries (i.e., DGIF) and from the U.S. Coast Guard (i.e., Documented). See Section 3.3 (Page 19) for details.

## 8. REFERENCES

### 8.1 Species

*Most prevalent species in and around the subject waters of this application:*

BOVA Code	Status*	Tier**	Common Name	Scientific Name
70148		I	Amphipod, Lancaster County	Crangonyx baculispina
100361	FTST	II	Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis
40264	SS	IV	Creeper, brown	Certhia americana
40364	SS		Dickcissel	Spiza americana
40093	FSST	II	Eagle, bald	Haliaeetus leucocephalus
40032	SS		Egret, great	Ardea alba egretta
40096	ST	I	Falcon, peregrine	Falco peregrinus
40366	SS		Finch, purple	Carpodacus purpureus
100001	FS	IV	fritillary, Diana	Speyeria diana
40094	SS	III	Harrier, northern	Circus cyaneus
40029	SS	II	Heron, little blue	Egretta caerulea caerulea
40034	SS	III	Heron, tricolored	Egretta tricolor
40040	SS	III	Ibis, glossy	Plegadis falcinellus
40285	SS		Kinglet, golden-crowned	Regulus satrapa
40112	SS		Moorhen, common	Gallinula chloropus cachinnans
40036	SS	III	Night-heron, yellow-crowned	Nyctanassa violacea violacea
40262	SS		Nuthatch, red-breasted	Sitta canadensis
50045	SS		Otter, northern river	Lontra canadensis lataxina
40204	SS	III	Owl, barn	Tyto alba pratincola
40213	SS	II	Owl, northern saw-whet	Aegolius acadicus
40020	SS		Pelican, brown	Pelecanus occidentalis carolinensis
40110		I	Rail, black	Laterallus jamaicensis
40129	ST	I	Sandpiper, upland	Bartramia longicauda
40225		I	Sapsucker, yellow-bellied	Sphyrapicus varius
40379	ST	I	Sparrow, Henslow's	Ammodramus henslowii
40381	SS	II	Sparrow, saltmarsh sharp-tailed	Ammodramus caudacutus
10032	SS	II	Sturgeon, Atlantic	Acipenser oxyrinchus
10031	FESE	I	Sturgeon, shortnose	Acipenser brevirostrum
40189	SS		Tern, Caspian	Sterna caspia
40180	SS	IV	Tern, Forster's	Sterna forsteri
40186	SS	II	Tern, least	Sterna antillarum
40188	SS		Tern, sandwich	Sterna sandvicensis acuflavidus
30067	CC	II	Terrapin, northern diamond-backed	Malaclemys terrapin terrapin
40278	SS		Thrush, hermit	Catharus guttatus
30072	FTST		Turtle, green sea	Chelonia mydas
30074	FESE		Turtle, Kemp's (= Atlantic) Ridley sea	Lepidochelys kempii
30071	FTST	I	Turtle, loggerhead sea	Caretta caretta
30063	CC	III	Turtle, spotted	Clemmys guttata
40319		I	Warbler, black-throated green	Dendroica virens
40314	SS		Warbler, magnolia	Dendroica magnolia
40304	SS	II	Warbler, Swainson's	Limothlypis swainsonii
40270	SS	III	Wren, sedge	Cistothorus platensis
40266	SS	II	Wren, winter	Troglodytes troglodytes

\* FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; FS=Federal Species of Concern; SC=State Candidate; CC=Collection Concern; SS=State Special Concern

\*\* I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Source: Virginia Department of Game and Inland Fisheries - [http://vafwis.org/fwis/?Menu=Home.\\_\\_\\_\\_By+Place%20Name](http://vafwis.org/fwis/?Menu=Home.____By+Place%20Name)



## 8.2 Public Support

WATER BODY	NDZ Interest (Written letter of support / request unless otherwise noted)		
	Government	Marina Owner	Citizen
***TBA***	DEQ, VDH, DCR	TBA	TBA
	DEQ, VDH, DCR	TBA	TBA

## 8.3 Marine Sanitation Device (MSD) Standard

40 CFR §140.4(a)

TITLE 40 - PROTECTION OF ENVIRONMENT

CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D - WATER PROGRAMS

### PART 140 - MARINE SANITATION DEVICE STANDARD

140.4 - Complete prohibition.

(a) Prohibition pursuant to CWA section 312(f)(3): a State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into some or all of the waters within such State by making a written application to the Administrator, Environmental Protection Agency, and by receiving the Administrator's affirmative determination pursuant to section 312(f)(3) of the Act. Upon receipt of an application under section 312(f)(3) of the Act, the Administrator will determine within 90 days whether adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available. Applications made by States pursuant to section 312(f)(3) of the Act shall include: (1) A certification that the protection and enhancement of the waters described in the petition require greater environmental protection than the applicable Federal standard; (2) A map showing the location of commercial and recreational pump-out facilities; (3) A description of the location of pump-out facilities within waters designated for no discharge; (4) The general schedule of operating hours of the pump-out facilities; (5) The draught requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility; (6) Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and (7) Information on vessel population and vessel usage of the subject waters.

(b) Prohibition pursuant to CWA section 312(f)(4)(A): a State may make a written application to the Administrator, Environmental Protection Agency, under section 312(f)(4)(A) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularity the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application.

(1) For the following waters the discharge from a vessel of any sewage (whether treated or not) is completely prohibited pursuant to CWA section 312(f)(4)(A): (i) Boundary Waters Canoe Area, formerly designated as the

*Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, as described in 16 U.S.C. 577577d1.*

*(ii) Waters of the State of Florida within the boundaries of the Florida Keys National Marine Sanctuary as delineated on a map of the Sanctuary at <http://www.fknms.nos.noaa.gov/>.*

*(c)(1) Prohibition pursuant to CWA section 312(f)(4)(B): A State may make written application to the Administrator of the Environmental Protection Agency under section 312(f)(4)(B) of the Act for the issuance of a regulation establishing a drinking water intake no discharge zone which completely prohibits discharge from a vessel of any sewage, whether treated or untreated, into that zone in particular waters, or portions thereof, within such State. Such application shall: (i) Identify and describe exactly and in detail the location of the drinking water supply intake(s) and the community served by the intake(s), including average and maximum expected amounts of inflow; (ii) Specify and describe exactly and in detail, the waters, or portions thereof, for which a complete prohibition is desired, and where appropriate, average, maximum and low flows in million gallons per day (MGD) or the metric equivalent; (iii) Include a map, either a USGS topographic quadrant map or a NOAA nautical chart, as applicable, clearly marking by latitude and longitude the waters or portions thereof to be designated a drinking water intake zone; and (iv) Include a statement of basis justifying the size of the requested drinking water intake zone, for example, identifying areas of intensive boating activities.*

*(2) If the Administrator finds that a complete prohibition is appropriate under this paragraph, he or she shall publish notice of such finding together with a notice of proposed rulemaking, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that a complete prohibition covering a more restricted or more expanded area than that applied for by the State is appropriate, he or she shall also include a statement of the reasons why the finding differs in scope from that requested in the State's application.*

*(3) If the Administrator finds that a complete prohibition is inappropriate under this paragraph, he or she shall deny the application and state the reasons for such denial.*

*(4) For the following waters the discharge from a vessel of any sewage, whether treated or not, is completely prohibited pursuant to CWA section 312(f)(4)(B): (i) Two portions of the Hudson River in New York State, the first is bounded by an east-west line through the most northern confluence of the Mohawk River which will be designated by the Troy-Waterford Bridge (126th Street Bridge) on the south and Lock 2 on the north, and the second of which is bounded on the north by the southern end of Houghtaling Island and on the south by a line between the Village of Roseton on the western shore and Low Point on the eastern shore in the vicinity of Chelsea, as described in Items 2 and 3 of 6 NYCRR Part 858.4.*

*(ii) [Reserved] [41 FR 4453, Jan. 29, 1976, as amended at 42 FR 43837, Aug. 31, 1977; 60 FR 63945, Dec. 13, 1995; 63 FR 1320, Jan. 8, 1998; 67 FR 35743, May 21, 2002]*

Source: <http://cfr.vlex.com/vid/140-4-complete-prohibition-19813573>

## **8.4 Virginia House Bill 1774**

*2009 Session - Enrolled*

*VIRGINIA ACTS OF ASSEMBLY — CHAPTER*

*An Act to amend and reenact § 62.1-44.33 of the Code of Virginia, relating to establishing the tidal creeks of the Commonwealth as a "no discharge zone." [H 1774] Approved  
Be it enacted by the General Assembly of Virginia:*

*1. That § 62.1-44.33 of the Code of Virginia is amended and reenacted as follows:  
§ 62.1-44.33. Board to adopt regulations; tidal waters no discharge zones.*

*A. The State Water Control Board is empowered and directed to adopt all necessary regulations for the purpose of controlling the discharge of sewage and other wastes from both documented and undocumented boats and vessels on all navigable and nonnavigable waters within this Commonwealth.*

*No such regulation shall impose restrictions that are more restrictive than the regulations applicable under federal law; provided, however, the Board may adopt such regulations as are reasonably necessary with respect to: (i) vessels regularly berthed in marinas or other places where vessels are moored, in order to limit or avoid the closing of shellfish grounds; and (ii) no discharge zones. Documented and undocumented boats and vessels are prohibited from discharging into the Chesapeake Bay and the tidal portions of its tributaries sewage that has not been treated by a Coast Guard-approved Marine Sanitation Device (MSD Type 1 or Type 2); however, the discharge of treated or untreated sewage by such boats and vessels is prohibited in areas that have been designated as no discharge zones by the United States Environmental Protection Agency.*

*B. The tidal creeks of the Commonwealth are hereby established as no discharge zones for the discharge of sewage and other wastes from documented and undocumented boats and vessels. The Board shall adopt regulations for designated no discharge zones requiring (i) boats and vessels without installed toilets to dispose of any collected sewage from portable toilets or other containment devices at marina facilities approved by the Department of Health for collection of sewage wastes, or otherwise dispose of sewage in a manner that complies with state law; (ii) all boats and vessels with installed toilets to have a marine sanitation device to allow sewage holding capacity unless the toilets are rendered inoperable; (iii) all houseboats having installed toilets to have a holding tank with the capability of collecting and holding sewage and disposing of collected sewage at a pump-out facility; if the houseboats lack such tank with such capability, the toilet must be removed; (iv) y-valves, macerator pump valves, or any other through-hull fitting valves capable of allowing a discharge of sewage from marine sanitation devices to be secured in the closed position by a device that is not readily removable, including, but not limited to, a numbered container seal such that through-hull sewage is rendered inoperable; and (v) every owner or operator of a marina within a designated no discharge zone to notify boat patrons leasing slips of the sewage discharge restriction in the no discharge zone. As a minimum, notification shall consist of no discharge zone information in the slip rental contract and a sign indicating the area is a designated no discharge zone.*

*In formulating regulations pursuant to this section, the Board shall consult with the State Department of Health, the Department of Game and Inland Fisheries and the Marine Resources Commission for the purpose of coordinating such regulations with the activities of such agencies.*

*For purposes of this section "no discharge zone" means an area where the Commonwealth has received an affirmative determination from the U.S. Environmental Protection Agency that there are adequate facilities for the removal of sewage from vessels (holding tank pump-out facilities) in accordance with 33 U.S.C. § 1322(f)(3), and where federal approval has been received allowing a complete prohibition of all treated or untreated discharges of sewage from all vessels.*

*C. Violation of such regulations and violations of the prohibitions created by this section on the discharge of treated and untreated sewage from documented and undocumented boats and vessels shall, upon conviction, be a Class 1 misdemeanor. Every law-enforcement officer of this Commonwealth and its subdivisions shall have the authority to enforce the regulations adopted under the provisions of this section and to enforce the prohibitions on the discharge of treated and untreated sewage created by this section.*

## **8.5 Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings**

*Virginia Administrative Code, CHAPTER 570, Part I, Introduction, Article 1*

*12VAC5-570-10. Definitions.*

*As used in this chapter, the words and terms hereinafter set forth shall have the following meanings respectively, unless the context clearly requires a different meaning.*

*"Board" means the State Board of Health.*

*"Boat" means any vessel or other watercraft, privately owned or owned by the Commonwealth or any political subdivision thereof, whether moved by oars, paddles, sails or other power mechanism, inboard or outboard, or any other vessel or structure floating on water in the Commonwealth of Virginia, whether or not capable of*



*self-locomotion, including but not limited to cruisers, cabin cruisers, runabouts, houseboats and barges. Excluded from this definition are commercial, passenger and cargo carrying vessels subject to the Quarantine Regulation of the United States Public Health Service adopted pursuant to Title 42 of the United States Code and ships or vessels of the U.S. Government and boats which are tenders to larger boats moored or stored at the same facility.*

*"Certificate" means a written approval from the Commissioner or his designated representative indicating that plans for sanitary facilities and sewage facilities meet or satisfy the minimum requirements of this chapter and § 32.1-246 of the Code of Virginia.*

*"Commissioner" means the State Health Commissioner whose duties are prescribed in § 32.1-19 of the Code of Virginia.*

*"Division" means the Division of Wastewater Engineering, Department of Health.*

*"Dry storage" means a boat storage or parking space, whether covered or uncovered, at a marina or other place where boats are moored for the purpose of storing boats on land between use.*

*"Marina" means any installation, operating under public or private ownership, which provides dockage or moorage for boats (exclusive of paddle or rowboats) and provides, through sale, rental or fee basis, any equipment, supply or service (fuel, electricity or water) for the convenience of the public or its leasee, renters or users of its facilities.*

*"Marine sanitation device" means any equipment, piping and appurtenances such as holding tanks for installation on board a boat which is designed to receive, retain, treat or discharge sewage and any process to treat such sewage.*

*"Other places where boats are moored" means any installation operating under public or private ownership, which provides dockage, moorage or mooring for boats (exclusive of paddle or rowboats) either on a free, rental or fee basis or for the convenience of the public.*

*"Owner" means the Commonwealth or any of its political subdivisions and any public or private institution, corporation, association, firm or company organized or existing under the laws of this or any other state or county, or any person or group of persons acting individually or as a group who owns a marina or other place where boats are moored.*

*"Pump-out facilities" means any device, equipment or method of removing sewage from a marine sanitation device. Also, it shall include any holding tanks either portable, movable or permanently installed, and any sewage treatment method or disposable equipment used to treat, or ultimately dispose of, sewage removed from boats.*

*"Sanitary facilities" means bathrooms, toilets, closets and other enclosures where commodes, stools, water closets, lavatories, showers, urinals, sinks or other such plumbing fixtures are installed.*

*"Seasonal slips" means any slip which is used, rented, leased or otherwise made available for mooring or docking of boats during the normal boating season, usually from April through September, or for any period greater than 30 days.*

*"Sewage" means the spent water or wastewater containing human excrement coming from toilets, bathrooms, commodes and holding tanks.*

*"Sewage treatment or disposal systems" means device, process or plant designed to treat sewage and remove solids and other objectionable constituents which will permit the discharge to another approved system, or an approved discharge to state waters or disposal through an approved subsurface drainfield or other acceptable method, such as incineration.*

*"Sewerage facilities" means entire sewage collection and disposal system including commodes, toilets, lavatories, showers, sinks and all other plumbing fixtures which are connected to a collection system consisting*

*of sewer pipe, conduit, holding tanks, pumps and all appurtenances, including the sewage treatment or disposal system.*

*"Transient slips" means temporary docking or mooring space which may be used for short periods of time, including overnight, days, or weeks, but less than 30 days.*

*Statutory Authority: §§ 32.1-12 and 32.1-246 of the Code of Virginia.*

*Historical Notes: Derived from VR355-17-01 § 1.1, eff. September 1, 1987; amended, Virginia Register Volume 6, Issue 24, eff. October 1, 1990.*

*Source: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+12VAC5-570-10>*

#### *Article 2 - General Information*

*12VAC5-570-20. Authority for regulations.*

*Section 32.1-12 and 32.1-246 of the Code of Virginia provides that the State Board of Health is empowered and directed to promulgate all necessary rules and regulations establishing minimum requirements as to adequacy of sewerage facilities at marinas and other places where boats are moored. These facilities should be sufficient to serve the number of boat slips or persons such marinas and places are designed to accommodate, regardless of whether such establishments serve food.*

*Statutory Authority: §§ 32.1-12 and 32.1-246 of the Code of Virginia.*

*Historical Notes: Derived from VR355-17-01 § 1.2, eff. September 1, 1987; amended, Virginia Register Volume 6, Issue 24, eff. October 1, 1990.*

*Source: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+12VAC5-570-20>*

## **8.6 Additional References and Sources**

### ***Navigation Charts***

Rappahannock River (Entrance/Chesapeake Bay)

<http://www.charts.noaa.gov/OnLineViewer/12235.shtml>

Rappahannock River (Corrotoman to Fredericksburg)

<http://www.charts.noaa.gov/OnLineViewer/12237.shtml>

NOAA Nautical Charts

<http://www.charts.noaa.gov/OnLineViewer/AtlanticCoastViewerTable.shtml>

### ***Center for Coastal Resources Management***

*Richmond County Shoreline Situation Report, 2000*

<http://ccrm.vims.edu/gisdatabases.html>

### ***Environmental Protection Agency (EPA)***

*Protecting Coastal Waters from Vessel and Marina Discharges:*

*A Guide for State and Local Officials. Volume I*

*Establishing No Discharge Areas under section 312 of the Clean Water Act*

*August 1994 (includes the Boater Sanitary Waste Reception Facility Requirements Worksheet):*

<http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P1007NAG.txt>

*Clean Water Act Section 312. November 27, 2002*

*Code of Federal Regulations Title 40: Protection of the Environment*

*Part 140: Marine Sanitation Device Standard*

*No Discharge Zones: How They Work*

[http://www.epa.gov/owow/oceans/regulatory/vessel\\_sewage/vsdarticle.html](http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/vsdarticle.html)

### **Virginia Department of Environmental Quality (DEQ)**

Water Quality Monitoring

<http://www.deq.virginia.gov/watermonitoring>

Impaired Waters: 2008 Dissolved Oxygen Impairments

[http://www.deq.virginia.gov/wqa/pdf/2008ir/maps/Impairments\\_2008\\_DO.pdf](http://www.deq.virginia.gov/wqa/pdf/2008ir/maps/Impairments_2008_DO.pdf)

Impaired Waters: Dissolved Oxygen Standards for the Chesapeake Bay and Tributaries

<http://www.deq.virginia.gov/wqs/homepage.html> (See pp. 44-45)

Impaired Water Search Form (All impaired waters by stream segment):

<http://gisweb.deq.virginia.gov/FactSheets2008/Choose.aspx>

What's in My Backyard?

[http://www.deq.virginia.gov/mapper\\_ext/default.aspx?service=publicMaps/Whats\\_in\\_my\\_backyard](http://www.deq.virginia.gov/mapper_ext/default.aspx?service=publicMaps/Whats_in_my_backyard)

*Virginia Water Quality Assessment 305(b)/303(d) Integrated Report, August 2006*

*Total Maximum Daily Loads (TMDLs): A TMDL Study identifies sources of pollution and reductions needed from the identified pollutants to attain water quality standards. Pollution from both point sources (such as residential, municipal, or industrial discharges) and non-point sources (such as residential, urban, or agricultural runoff) are included in a TMDL study.*

*TMDLs in Virginia:*

<http://www.deq.virginia.gov/tmdl/homepage.html>

<https://www.deq.virginia.gov/TMDLDataSearch/ReportSearch.jsp>

*APPROVED Shellfish TMDL Reports Relevant to this application:*

Farnham: <http://www.deq.virginia.gov/tmdl/apptmdls/shellfish/farnham.pdf>

Lancaster/Morattico: <http://www.deq.virginia.gov/tmdl/apptmdls/shellfish/lanc23.pdf>

*For creeks that have not been approved yet:*

<https://www.deq.virginia.gov/TMDLDataSearch/DraftReports.jsp>

*To search for other creeks:*

<http://www.deq.state.va.us/tmdl/develop.html>

*Virginia Environmental Geographic Information Systems: It Provides various interactive mapping layers covering aquatic life, fish consumption, public water supply, recreation use, shellfish use, wildlife use, citizen monitoring, and "what's in my backyard."*

[http://www.deq.virginia.gov/mapper\\_ext/index.html](http://www.deq.virginia.gov/mapper_ext/index.html)

### **Virginia Department of Game and Inland Fisheries (VDGIF)**

2007 Boater Registration Data

Species: [http://vafwis.org/fwis/?Menu=Home.\\_\\_By+Place%20Name](http://vafwis.org/fwis/?Menu=Home.__By+Place%20Name)

### **Virginia Department of Health (VDH)**

Marina Inspection Forms for 2007

Office of Environmental Health Services

*Boat Holding Tank Pump-out Facilities in Virginia – 2007*, pp. 9-11  
Division of Wastewater Engineering, Marina Program

Shellfish Closures – Regional Map  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Shellfish/closureSurvey/index.htm>

Pumpout Data  
<http://www.vdh.virginia.gov/EnvironmentalHealth/Wastewater/MARINA/pumpoutdata/county>

***Virginia Department of Natural Resources***

Chesapeake Bay and Virginia Waters Clean-up Plan. February 2007

***U.S. Coast Guard***

CG SECTOR HAMPTON ROADS (05-37070)  
4000 COAST GUARD BOULEVARD  
PORTSMOUTH, VA 23703  
Primary Phone: (757) 668-5555 (OPT 2)  
Emergency Phone: (757) 668-5555 (OPT 1)  
Fax Number: (757) 295-2046  
Rescue 21 VHF DSC MMSI Number: 003669922  
URL: <http://www.uscg.mil/d5/sectHamptonRoads/>  
Nautical Mile = 1.1508 Land Mile



## 9. PUBLIC MEETING

### 9.1 Public Meeting & Comments

The public meeting for Lancaster County's No Discharge Zone application took place on February 22, 2011, at 6 p.m., at the Lancaster County Administration Building. The comment period that followed the meeting ended on March 28, 2011. All comments received follow below.